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Inside Dope

By GEORGE F. TAUBENECK

Learn to live and laugh — thus delay your epitaph

Frank Smith, Gentleman
Long-Term Goals
A Lesson In Civics: Tecumseh Unlimited
Respectability vs. Lovingkindness

Frank Smith, Gentleman

Roster of loyal friends who mourned at Frank Smith's funeral in Tecumseh, Mich., last Monday would comprise a Social Register of the Refrigeration Industry.

Frank was a great salesman and a tough competitor; but those who competed against him loved him. He was a true gentleman.

Furthermore, Frank Smith realized that sales of Tecumseh compressors could increase rapidly (as they have) only if sales of refrigeration end-use products leaped. So he dedicated his too-short life to refrigeration industry cooperative progress.

Following resume of his industry activities may be inadequate and skeletonized. We trust, however, that it may be inspirational.

Frank Smith was born in Colliers, W. Va. on July 3, 1905, a son of George B. and Anna K. Smith. His business life was almost entirely connected with the rapid development of the refrigeration industry. To this industry he contributed liberally of his talents as an engineer and an organizer.

His great ability to make friends and adaptability to team work made him one of the outstanding figures in our business —respected by associates, competitors, and customers alike. His service to the industry included membership on the Board of Directors of The Refrigeration Equipment Manufacturers Association, Chairmanship of the Compressor Section of that association, Chairmanship of the Joint Refrigeration Industry Committee, and many other committee posts.

Frank's refrigeration experience started with the Nizer Corp. of Detroit in 1923. He remained with this company, which was later merged with Kelvinator, until 1928. During 1930 and 1931, he was connected with the Russ Soda Fountain Co. of Cleveland.

In 1932 he took a design model of a single-cylinder refrigeration compressor to Ray Herrick in Hillsdale, Michigan. This compressor was produced by the Hillsdale Machine & Tool Co. In 1934, the company moved to Tecumseh, Michigan, and was reincorporated as the Tecumseh Products Co. Together with C.

(Continued on Page 12, Col. 1)

7 'Sheer Look' Room Units In Frigidaire Line

DAYTON — A new line of 1957 room air conditioners was announced here by Herman F. Lehman, General Motors vice president and head of Frigidaire Div.

The new models, "designed with the same clean, uncluttered 'sheer look' styling of Frigidaire's home appliances," were shown publicly for the first time during the opening of the Chicago Furniture Market.

Frigidaire's restyled 1957 room unit line features "simplified comfort" with new compact design permitting easier installation, simpler operation, and efficient "draftless" circulation of filter-pure conditioned air, Lehman pointed out.

Seven window-type room air conditioners with cooling capaci-

(Concluded on Page 45, Col. 3)

Hotpoint Has Color Styled Room Coolers

CHICAGO — Ten new room air conditioners in four different series and six colors, a "completely new" refrigerator-freezer combination, seven combinations and three standard refrigerators, and two upright and three chest type food freezers with storage capacities up to 907 lbs. are among products introduced by Hotpoint Co. for 1957.

Color styled and designed "from a woman's viewpoint," the 10 new room air conditioners are claimed to offer capacities to meet "all air conditioning needs—from one room to a five-room house."

B.t.u. ratings range from 5,075 for the compact casement unit to 15,540 for a new 2-hp.

(Concluded on Page 8, Col. 1)

'56 Compressor Shipments Up 36% In First 9 Mos.

WASHINGTON, D. C.—Manufacturers' shipments of compressor bodies reported to the Air-Conditioning & Refrigeration Institute for the first three-quarters of 1956 totaled 3,860,273 units, not including compressors for household refrigerators.

This is a gain of almost 36% over the first three-quarters figure of 2,844,741 units reported in 1955, according to Geo. S. Jones, Jr., managing director of ARI.

Of the 1956 total, 218,489 compressors were for automotive air conditioning, compared with reported shipments for the entire year 1955 of 255,371 automotive units.

September shipments totaled 347,110 units, of which 12,779 were for automotive air conditioning use. September 1955 shipments were 275,580 compressor bodies.

The figures were prepared on

(Concluded on Page 11, Col. 3)

Haase Is York Pres.; Lauer Heads Board

York To Expand Lines, Redesign Central Units, Add New Heat Pumps

CHICAGO—Election of Henry M. Haase, vice president in charge of engineering and research for Borg-Warner, as president and chief executive officer of the York Div. of Borg-Warner Corp. at York, Pa., was announced.

Haase will continue to be a vice president of Borg-Warner but in the future will not direct the parent corporation's research and engineering activities.

Simultaneously the elevation of Stewart E. Lauer to the chairmanship of the board of the York Div. was announced. Lauer had been president of York for 16 years.

The top level elections in the York organization were accompanied by an announcement that this large Borg-Warner division is embarking upon a major and carefully planned program of expansion.

(Concluded on Back Page, Col. 3)

Jordon Refrigerator Sells Freezer Line To Commercial Mfr.

PHILADELPHIA — Company executives have confirmed the purchase of Jordon Refrigerator Co.'s line of home freezers as well as the transfer of the entire sales and merchandising program of the Jordon freezer line by Jordon Commercial Refrigerator Co. at 2200 Kennedy St. here.

Last year Jordon Commercial Refrigerator Co. purchased the commercial refrigeration line from Jordon Refrigerator Co., a subsidiary of U. S. Air Conditioning Corp.

The Jordon freezer line will continue to be manufactured by Jordon Refrigerator Co. and the Jordon plant is back in full production at the present time, company officials advised.

"Shipment of new equipment

(Concluded on Page 41, Col. 3)

Remington Units Made In 6 Series

AUBURN, N. Y.—Six different series of room air conditioners, "designed to supply every requirement," have been presented by the Air Conditioning Div. of Remington Corp. to its field men attending the annual sales conference here.

"Consistent with our policy of no yearly models, and of adopting improvements as soon as they have been perfected and can be put into production, rather than holding them for the following year, three of the 1957 series are a continuation and improvement of models carried in the company's 1956 line," Herbert L. Laube, president of Remington, announced.

He also announced that the company's 1956 export volume was the largest in its 20 years of room air conditioner specialization, and that the long estab-

(Concluded on Page 4, Col. 3)

Home Cooling Units In NAHB Jan. 20 Show

CHICAGO — Thirteenth annual convention and exposition of the National Association of Home Builders will open here Sunday, Jan. 20 and run through Thursday, Jan. 24.

New air conditioning products for the home will be among the 450 or so exhibits spread over the Hotels Sherman and Conrad Hilton and the Coliseum. On the convention program, developments in using air conditioning in homes will be discussed at 10 a.m. on Tuesday.

The exhibits may be visited by anyone putting up the registration fee: $15 for men and $10 for women. A free shuttle bus service will be run between

(Concluded on Back Page, Col. 5)

Lonergan Offers 3 Room Unit Lines

ALBION, Mich. — Three new lines of room air conditioners and two dehumidifiers were introduced at the January market in Chicago by Lonergan Coolerator Div., McGraw-Edison Co.

Some 18 models will be available for 1957 in the three "Coolerator" room air conditioner lines, including new compact style "Profile" units measuring 16⅞ in. deep "for installation anywhere," the "Super" series, and the "Custom" units.

John R. Lonergan, vice president in charge of sales, said the

(Concluded on Page 45, Col. 1)

ARI Room Unit Rating Program 'Working Better Than Foreseen'

WASHINGTON, D. C. — The program instituted by the Air-Conditioning & Refrigeration Institute to provide prospective purchasers of room air conditioners "a true comparative capacity rating" as a buying guide is working out "even better" than anticipated, it was announced by George S. Jones, Jr., managing director of ARI.

Ten of the manufacturers who told ARI in September, 1956 they would test and rate their room air conditioning units in compliance with the ARI standard already have published specification sheets and other consumer literature giving capacity ratings in B.t.u.'s, as prescribed by the standard, Jones said. Six others have provided the B.t.u.h. ratings to ARI for publication as the institute sees fit, and four more have said that they will publish such ratings in future specifications and literature.

Twenty-two manufacturers agreed last September to make public the ratings as arrived at under the ARI test procedure.

However, a number of them had their 1957 specifications and consumer literature in process of publication too early to make the tests required which would enable them to state capacities of the products in B.t.u.'s. Among these are included the six producers who have released capacity ratings to ARI but have not yet had an opportunity to publish them in printed form.

Manufacturers who have al-

(Concluded on Back Page, Col. 1)

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'Live Better Electrically' Program Starts To Push Feb. 10-16 Observance

NEW YORK CITY — Three major promotional events will be undertaken by the electrical industry's "Live Better Electrically" program to launch the observance of National Electrical Week (Feb. 10-16), according to Merrill E. Skinner, chairman of the National Electrical Week Committee.

The first of these events will be the distribution of a newspaper supplement to over 10,000 weekly and daily papers throughout the country.

This will be followed by publication of a full color advertisement in the February issue of *Readers' Digest,* which will be seen by over 35 million readers. The climactic event in the promotion will be a closed-circuit telecast beamed to some 35,000 local businessmen in 70 cities.

The telecast, to take place on Jan. 30, will report to the industry the accomplishments of the Live Better Electrically program during its first full year of operation, and will highlight many of the activities to be undertaken in the coming year.

Cincinnati To Hold Electrical Show

CINCINNATI—Local observance of National Electrical Week will be highlighted by an Electric Living Exposition at Cincinnati Gardens Feb. 9-17.

Staged by the Cincinnati Electrical Association in cooperation with the Cincinnati *Enquirer, Post,* and *Times-Star,* the exposition will be an exhibit of residential electrical appliances and equipment showing applications of electricity in modern living. It will be the first such show here since 1939.

One of the many novel features of the exposition will be "The Home in the Clouds." A transparent plastic home will be constructed close to the ceiling of Cincinnati Gardens equipped with electrical appliances.

The three newspapers will each conduct a contest to find a couple to represent them. These couples will actually live in "The Home in the Clouds" for three days, and each couple will receive electrical appliances worth $1,000.

Huge Refrigerated Meat Storage Plant Going Up

SAN ANTONIO — Construction recently began on a 5 million lb. capacity meat storage refrigerated warehouse here by Roegelein Provision Co.

"This completely mechanized plant will be one of the most modern in the U.S.," it was said.

Evans Subsidiary Acquires Haskelite

PLYMOUTH, Mich. — Evans Products Co. and its subsidiary announced they have entered into agreements for the acquisition by Evans' wholly owned subsidiary of "substantially all" the assets of Haskelite Mfg. Corp., Grand Rapids, Mich.

Haskelite and its subsidiaries make doors, door units, and laminated wood products (which include "Plymetl" and "Ornalite") and the line of products known as "Hasco-Struct," which utilizes plastics, chemicals, and raw materials for manufacture of laminated panels for household refrigerators and freezers, freight cars and trailers, interior panels and curtain wall insulation used in building construction, the announcement said.

E. S. Evans, Jr., president of Evans Products, said the purchase will be on the basis of one share of Evans stock for every three shares of Haskelite outstanding.

Haskelite operates a plant at Grand Rapids and has three subsidiaries: Meyercord Compound Lumber Co., Mobile, Ala.; Marquette Veneer Co., Marquette, Mich.; and Gillett Log Co., Sault Ste. Marie, Ont., Can.

Evans is a major producer in the northwest of fir plywood, lumber, battery separators, hardboard, and other products in five plants there. It also makes railroad freight damage prevention equipment, truck and bus heaters, and bicycles.

G-E Names Ramsdell General Manager of Commercial Cooling

BLOOMFIELD, N. J.—C. Benjamin Ramsdell has been appointed general manager of the General Electric Commercial & Industrial Air Conditioning Dept., according to Reginald H. Jones, general manager of the Air Conditioning Div.

Ramsdell

Ramsdell will be located at the division's headquarters here where the Commercial & Industrial Air Conditioning Dept. manufactures packaged air conditioning and water-coolers for stores, offices, and factories, it was explained.

Ramsdell joined General Electric in 1940 on the engineering training program. Prior to his present appointment he was manager-manufacturing at the company's Low Voltage Switch Gear Dept. located in Philadelphia.

Philco Promotes 3 to Executive Vice Pres.

PHILADELPHIA — Promotion of three vice presidents to newly-created positions as executive vice presidents of Philco Corp. was announced by James M. Skinner, Jr., Philco president.

Joseph H. Gillies was named executive vice president-operations. He was formerly vice president-manufacturing.

Larry F. Hardy was named executive vice president-consumer products. Hardy has been a vice president in general charge of Philco's consumer products divisions for the past four months.

Dr. Leslie J. Woods was named executive vice president-research and engineering. He was formerly vice president in charge of the same activities.

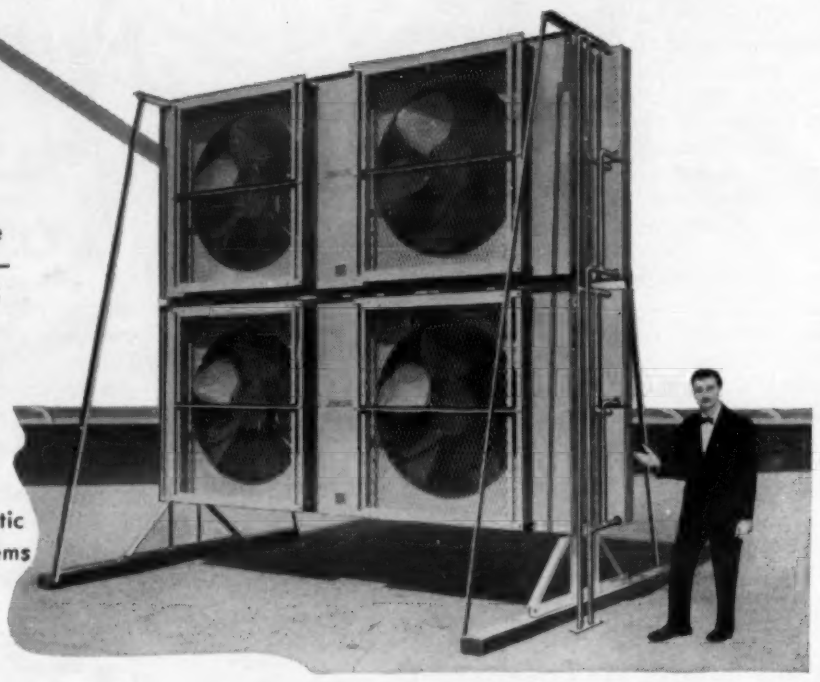
Under the new administrative setup, John M. Otter, who has been an executive vice president of Philco since 1954, becomes executive vice president-marketing with full responsibilities in the fields of distribution, merchandising, and advertising.

Skinner said the organizational change will provide functional direction for all Philco divisions in the fields of marketing, consumer products, manufacturing, and research and engineering.

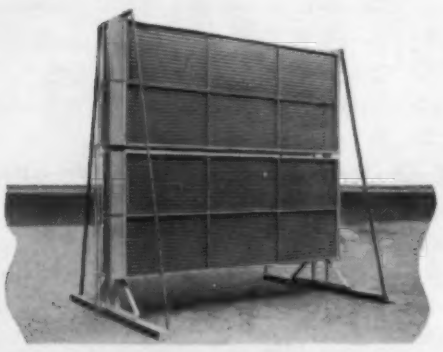
KRAMER

UNICON

GETS BIGGER and BIGGER



There is only one answer to large capacity condenser problems — the KRAMER UNICON. Every day more engineers plan larger tonnage installations — 50, 100 and even — 800 tons. And every day UNICONS are shipped to all parts of the world for giant-sized installations. No other air-cooled condenser can match the long, successful record of UNICON, backed by thousands of applications since 1937 — in the widest range of tonnages and climatic conditions. Your condensing problems can be best answered by use of the best — the KRAMER UNICON.



Space-saver UNICON, *as illustrated,* serves a 60-Ton air conditioning system, yet takes but 70 sq. ft. of roof space.

UNICON is a remote-type air-cooled condenser that requires no water. KRAMER UNICON can be used with any size compressor, REGARDLESS of horsepower. Any size refrigeration or air conditioning system can be air-cooled with UNICON, REGARDLESS of tonnage. UNICON requires less horsepower, less piping, is easier to install and costs less. KRAMER UNICON performs best — even in semi-tropical climates.

WRITE FOR BULLETIN U-210D

KRAMER TRENTON CO. • Trenton 5, N.J.

For more information about products advertised on this page use Information Center, page 31.

The most important material of all!

Many items are going into the building of our new Sidney plant — steel, brick, cement, glass. But you cannot see the one element that makes the entire project possible — FAITH.

We have faith in the fine Copeland organization — from factory workers to our jobbers and dealers.

We have faith in the quality of Copeland products.

We have faith in the future of our industry, as the demand for refrigeration and air conditioning constantly increases.

We have faith in the growth of America and the system of free enterprise which has given us the highest standard of living in the world.

Manufacturer of the heart of America's finest commercial refrigeration and air conditioning

SINCE 1918

Copeland REFRIGERATION CORPORATION, Sidney, Ohio

Small Folder Shows New Mitchell Room Unit Line, Has Trade-In Calculator

CHICAGO — A wallet-size folder which illustrates in color the full Mitchell line of room air conditioners and also has a trade-in calculator is being distributed to appliance dealers by Mitchell Mfg. Co.

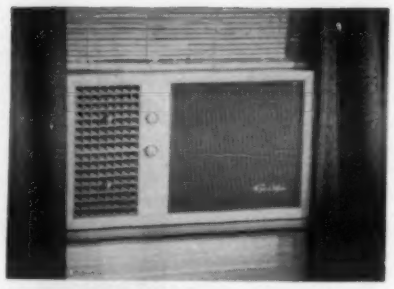
One side of the sheet, which measures 15½ by 12½ in. and folds down to 3 by 6¼ in., bears full-color illustrations of units in the 1957 Mitchell line. Each illustration is accompanied by sizes, model numbers, and specifications for each unit in the series.

The reverse side has sketches and descriptions of Mitchell features and component parts with particular emphasis on the company's new "Roto Cone" method of air distribution.

One the back of the piece, when folded is a "trade-in calculator" for use by salesmen. A chart shows which Mitchell units are suitable for various average room sizes, it was explained.

"We expect 1957 to be the first big year for trade-ins," said E. A. Tracey, Mitchell general manager. "We have prepared the folder so a salesman can make an on-the-spot offer on a trade-in deal, price the trade-in value of the old unit from the NARDA Blue Book of Trade-ins, and hand the customer his cash deal in the form of a written proposal which includes model number, list price for the 1957 unit selected, trade-in allowance, down payment, and monthly terms," Tracey continued.

"The trade-in calculator in effect makes a complete air conditioning proposal equipping the retail salesman with a new sales tool," the Mitchell executive stated.



THIS "El Dorado" room air conditioner, which comes in ¾ and 1-hp. models, illustrates one series in Remington Corp.'s 1957 line.

Remington--

(Concluded from Page 1, Col. 3)

lished policy of building units designed especially for the severe operating conditions prevalent in the tropics would be continued.

By this is meant, it was explained, that every unit in the Remington line will operate continuously at outdoor temperature as high as 115° F., even though the supply voltage fluctuates widely.

"Some of our new models, which we supply to the world's hottest spots, will actually operate sucessfully at outdoor temperatures as high as 125° F.," Laube claimed.

Model No.		List
EL DORADO SERIES		
WS7F-2	¾ hp., 115/60/1	$294.00
WS9F-2	1 hp., 115/60/1	314.00
REGALAIRE SERIES		
WD8E3	¾ hp., 230/60/1	264.00
WD10E3	1 hp., 230/60/1	289.00
ULTRA-THIN SERIES		
SD7A-2	¾ hp., 115/60/1	349.00
SD9A-2	1 hp., 115/60/1	354.00
SD10A-3	1 hp., 230/60/1	364.00
POWER HOUSE SERIES		
WD15B-3	1½ hp., 230/60/1	395.00
WD20B-3	2 hp., 230/60/1	469.00
CONSOLAIRE SERIES		
CD8G-2	¾ hp., 115/60/1	399.50
CD8G-3	¾ hp., 230/60/1	399.50
CD10G-3	1 hp., 230/60/1	469.50
CONSOLE SERIES		
12D129	1½ hp., 230v*	599.50
15E129	2 hp., 230v*	699.50
10CW129	1 hp., 230v†	599.50
12DW129	1½ hp., 230v†	699.50

*Air-cooled.
†Water-cooled.

"All 230-volt models may be equipped with a conversion package with which they will maintain full cooling power and over-load capacity on 208-volt service," the company said. "Most models will be offered for both 50 and 60-cycle operation."

The "El Dorado" and "Ultra-Thin" series are both entirely new, and have been introduced to meet changing market conditions, it was stated. All units in the Ultra-Thin series are 26 in. wide by 20½ in. high by 17 in. "thin." Exceptionally low noise level is claimed for this series, which uses centrifugal blowers for both room-side and condenser air.

The El Dorado series consists of "Lo-Narro" units which feature flexible designs.

"Having no side grilles, they may be brought all the way into the room, if desired," it was stated. "Or, they may be installed 'flush' in casement or double-hung windows, at the bottom or top of the window opening.

"Minimum projection inside the room is 2½ in. Being only 23 in. wide, these units fit the 24-in. windows often used in housing projects. In hotels and office building windows, they may be off-set to give maximum sill space for the window washer. And, since their height is only 13½ in., these units fit casement windows with 14-in. hopper openings at the bottom.

"Three of the new models were designed to meet the fast-growing problem of inadequate wiring," according to Andrew E. Reiss, Remington's director of engineering, who added that, "the smallest Ultra-Thin model draws only 7½ amperes and can often be used on existing wiring inadequate for conventional ¾-hp. units while, for the first time, we have a 1-hp. size for 115 volts with an input of only 12 amperes."

3 Graybar Branches To Handle Hunter Room Conditioners

MEMPHIS — The St. Louis, Little Rock, Ark., and Memphis branches of Graybar Electric Co., Inc. have been signed to handle Hunter room air conditioners during 1957, it was announced by Parker T. Finch, sales manager of the Hunter Div., Robbins & Myers, Inc.

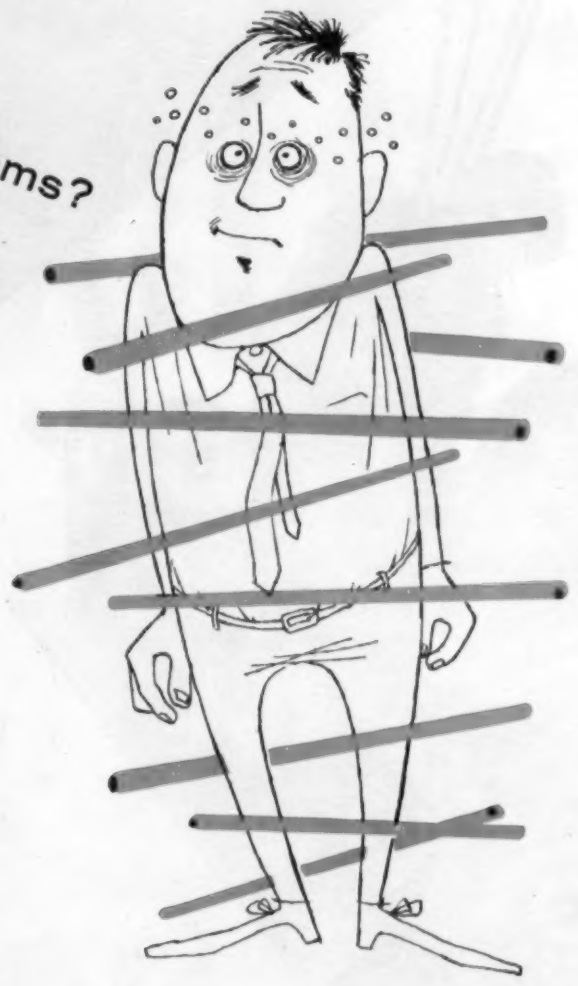
District Appliance Manager E. A. Grimes of St. Louis will be in charge of the distribution over three-fourths of the Graybar Mississippi Valley district. He will be assisted by Branch Appliances Managers William Ball of Little Rock, Dewey Lindsey of Memphis, and Bud Schloss of St. Louis.

Negotiations for the franchise were handled by Lacy Blake, western regional manager for Hunter. He will work with Graybar's men in the territory.

The Hunter line of air conditioners for 1957 is a full line, Finch pointed out. He said ¾, 1, 1½, and 2-hp. sizes are available with 7.5-amp and 12-amp models, 115-volt and 230-volt.

Conventional room air conditioners are equipped with standard flush mounting bracket. A new thin model for all in wall or all in window mounting is also featured. Hunter also has special casement units.

Up to here in tubing problems?



EVERY INCH OF GM STEEL TUBING MUST PASS AN EXCLUSIVE HIGH-PRESSURE "PLUS" TEST!

When you specify GM Steel Tubing, you get the toughest, most dependable refrigeration tubing made. Every inch of GM Steel Tubing must withstand an exclusive high-pressure hydrostatic test, under conditions far more demanding than any it will ever meet in actual use.

Worried about welds? Tests prove that the weld on every piece of GM Steel Tubing approved for shipment is as strong as the steel itself. What's more, four separate cleaning processes and inspections guarantee the cleanest tubing you can buy. For further information on how GM Steel Tubing can better meet your tubing problems, contact your Rochester Products Sales Engineer or write us direct.

Only GM Steel Tubing undergoes this extreme test of high-pressure solvents to assure maximum strength and cleanliness.

GM STEEL TUBING BY ROCHESTER PRODUCTS

Rochester Products Division of General Motors, Rochester, N.Y.

For more information about products advertised on this page use Information Center, page 31.

Servel Cuts 3½-Ton Gas Conditioner Cost 7% In Spite of 'Rising Costs'

EVANSVILLE, Ind.—"In spite of rising material and labor costs," Servel, Inc. announced that the factory price of its 3½-ton gas-operated "Sun Valley" air conditioner had been cut 7%.

Announcement of the price cut was made at a sales meeting here by A. J. DeFino, vice president and general manager of the company's "All-Year" Air Conditioning Div.

He said the reduction was made possible "by a capital investment which doubled our rate of production, by improved manufacturing techniques, and by design changes which not only lowered the cost of the product but also increased its performance efficiency."

As one example of several recent Servel advancements which have served to lower costs and at the same time to step up performance, DeFino mentioned the introduction of an entirely new flat-tube type of generator.

"Less expensive to make than the previous cylinder-type tube, the new flat-tube generator provides more heating surface in the same space, and responds more quickly to heating and cooling demands," it was stated.

He also referred to the addition of a pumping control, which regulates the rate at which the refrigerant flows through the system, as another example.

Robertshaw-Fulton, Penn Acquire Firms

DETROIT — Two controls firms are in the process of acquiring other companies in the field, it was learned here.

Penn Controls, Inc., Goshen, Ind., purchased Campbell Controls Co. of Santa Ana, Calif., for cash, Ralph S. Penn, president, stated. Price was not announced.

Robertshaw-Fulton Controls Co., Greensburg, Pa., announced it has reached an agreement with Acro Mfg. Co., Columbus, Ohio, whereby R-F will acquire all assets and business of Acro in exchange for 149,203 shares of R-F common stock.

The transaction is subject to approval by Acro's shareholders. The company makes electric switches and house heating controls. It has plants in Columbus and Hillsboro, Ohio. Its 1955 sales were $3,043,876.

In addition, R-F announced acquisition of the Beta Corp., Richmond, Va., manufacturer of specialized vibration monitoring equipment. The operation will be moved to Philadelphia and consolidated with Fielden Instrument Div. of R-F, it was explained.

Campbell Controls, manufacturer of thermostatic switches used in appliances and aircraft, was a division of John J. Foster Co., maker of insulation blankets for airplanes. With this sale, Foster is leaving the controls field, it was reported.

Frank A. Mueller Dies

MILWAUKEE — Frank A. Mueller, 73, retired veteran heating and air conditioning contractor, died recently.

Atlanta To Hold Home Mart Jan. 28-Feb. 2

ATLANTA—First Home Furnishings Market will be held here at the Belle Isle building Jan. 28 through Feb. 2 by the Atlanta Merchandise Mart, it was recently announced by the sponsors.

Signalling opening of permanent showrooms at the mart for major appliance, furniture, bedding, and floor covering manufacturers, the market is a separate endeavor from the third semi-annual pre-market furniture show to be held here in early January.

Cooled Fire House

FORT PIERCE, Fla. — The Fort Pierce-St. Lucie County fire department has occupied its new and air conditioned $100,000 home here, the department announced.

Carrier Tops Own Earnings, Sales, Orders Record with Net of $9,369,000 In '56

SYRACUSE, N. Y.—Carrier Corp. established new high records in earnings, sales, and orders booked during its fiscal year ended Oct. 31, 1956.

Net profit was $9,369,000 or $5.26 per share of common stock. The comparable figures for fiscal 1955 were $8,487,000 and $4.82 respectively.

Net sales of the corporation were $193,194,000 as compared with $190,015,000 for the previous fiscal year. Included in the latter figure was approximately $36½ million of shipments under a single defense contract whereas no major government work was done in fiscal 1956.

New orders were booked during fiscal 1956 in the amount of $214,420,000. The comparable figure for the previous 12 months period, exclusive of the government contract mentioned above, was $162,043,000.

As of Oct. 31, 1956, the corporation had a backlog of unfilled orders amounting to $69,431,000, an increase of $21,266,000 or 44%, over the total a year earlier.

Commenting on 1956 results and 1957 prospects, Cloud Wampler, chairman of the board, stated:

"The replacement of some $36½ million of major government work was a principal objective during fiscal 1956. And this was more than realized since total net sales were somewhat larger than those for the preceding period.

"Carrier entered fiscal 1957 with the largest backlog of unfilled orders that the corporation ever had at that time of the year. And this augurs well for the new fiscal year which began Nov. 1.

"The budget of the corporation for fiscal 1957 calls for an increase of approximately 20% in net sales. It now appears that this objective should be reached. However, the highly competitive situation throughout the industry—together with still-rising material and labor costs—will make it difficult to improve profits in proportion."

At the end of fiscal 1956, the working capital of Carrier amounted to $68,578,000 and its net fixed assets stood at $33,752,000. Both amounts are exclusive of $9½ million of funds segregated for expansion and improvement purposes. The comparable figures a year earlier were $67,981,000 of working capital; $27,369,000 of fixed assets.

PENN
Series 246 Water Valve for all refrigerants.
Series 880 Heating-Cooling Combination Thermostat.
Series 270 Temperature and Pressure Controls.
Series 325 Time-Pressure Defroster.
Series 275 Oil Protection Control.
Series 753 Air Conditioning Control Center.
THEY'RE EASIER TO INSTALL...
WIRE...AND ADJUST! THAT'S WHY
You're better off with PENN cooling controls
FOR ALL COMMERCIAL AND RESIDENTIAL JOBS!
Just as important . . . Penn Controls "stay on the job" much longer with the kind of dependable performance that keeps and wins customers for you. Remember, in Penn's complete line, there is a type and model to fit your exact needs. A few models are illustrated above . . . there are many more. Learn more about them . . . ask your wholesaler or write for Penn's free condensed catalog and price list. Don't delay, do it now!
PENN CONTROLS, INC. Goshen, Indiana
AUTOMATIC CONTROLS FOR HEATING, REFRIGERATION, AIR CONDITIONING, GAS APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES

Carrier Dedicates New Engineering Laboratory

Research Facilities Seen as Aid To Developing Quieter, Cheaper Equipment, Better Odor Control

SYRACUSE, N. Y.—Facilities to develop unitary equipment for not only tomorrow, but 10 years hence, plus testing apparatus to test and rate current models, are now at work in the Carrier Corp.'s new Unitary Equipment Div. engineering laboratory here.

The engineering facility just dedicated is the first of three to be built at a cost of about $4 million as part of Carrier's expansion plans. Also under construction for completion in 1957 are a Research Center for advanced study of new techniques, methods and materials in air conditioning, refrigeration and related fields, and a laboratory for development of "big" air conditioning systems.

William McGrath, chief engineer of Carrier's Unitary Equipment Div., which will employ the laboratories dedicated today, predicted that out of such facilities will come:

1. Quieter, less costly and far smaller air conditioning units. He described "miniaturization" of components as one of the important areas of attack.
2. New more efficient devices to control odors, remove bacteria, and stop smog and allergenic substances such as hay fever pollens.
3. New industrial air conditioning devices for "spot" cooling in so-called "hot" industries and stratified cooling which will permit a substantial portion of factory heat to escape under its own power.
4. More efficient and less expensive heat pumps providing a maximum of heating and cooling with a minimum use of electrical energy.

The new laboratory employs some 50 rooms for assembly and testing of new air conditioning devices. A battery of central air conditioning units with separate controls for each room can produce temperatures ranging from -10° F. to 145° F. and from 10% humidity to 98% or virtual saturation.

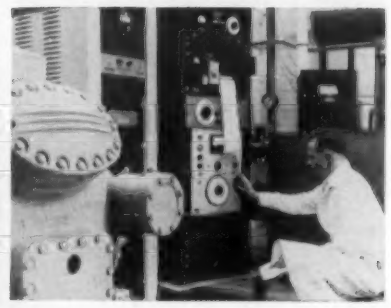
Precise control of conditions in each testing area is a prime consideration with tolerances in some test areas held to plus or minus ½° of temperature.

Included are "echoic" sound testing rooms where the slightest murmur will amplify itself

(Concluded on next page)

BREAKDOWN TESTS — If there's any chance of a weakness in new room air conditioner designs, Carrier finds it here before models go to market. In this "life test" room of new Carrier engineering facility for unitary air conditioning, models are operated continuously under the strain of maximum heat and humidity to locate any flaws in final design. Bruce Oswald, development engineer, makes quick check of thermostat bulb, filter, and cooling coil.

EVEN RAIN AND WIND and the effect of such extreme weather on air conditioning units is measured precisely in this "storm room" in Carrier Corp.'s new unitary equipment development laboratory—one of three engineering facilities to be completed this year. Walter Lewis, technician in foul weather garb, here checks the Carrier room air conditioner weatherseal against the slightest leakage of rainwater.



REFRIGERATING UNIT of advanced design undergoes rigid capacity and vibration tests in "calorimeter" section of new Carrier Corp. laboratory for development of residential and room air conditioners, and commercial and industrial units and systems. Technician John Ylitalo is checking the record written on tape of electronic device which shows sound and vibration characteristics. The engineering facility just dedicated is one of three planned as part of Carrier expansion program, and is designed to produce better, more economical air conditioning.

Jenni Genetron says, **"HERE'S THE**

genetron 11
TRICHLOROMONOFLUOROMETHANE
Refrigerant in industrial and commercial refrigeration and air conditioning systems utilizing single or multi-stage centrifugal compressors. Also for direct or indirect expansion-type systems.

genetron 12
DICHLORODIFLUOROMETHANE
Most widely used organic fluorine refrigerant. For virtually all types of refrigeration and air conditioning equipment, large and small, direct and indirect expansion systems.

genetron 22
MONOCHLORODIFLUOROMETHANE
Used in reciprocating compressors for package type air conditioners, home freezers and industrial processes requiring a lower-temperature refrigerant.

Selected Physical Data
(Performance based on 5°F evaporator temperature and 86°F condenser temperature)

	genetron 11 ORANGE LABEL	genetron 12 WHITE LABEL	genetron 22 GREEN LABEL
Chemical Formulae	CCl_3F	CCl_2F_2	$CHClF_2$
Molecular Weight	137.4	120.9	86.5
Boiling Pt. (°F) at 1 Atm. Pressure	74.7	—21.6	—41.4
Evaporator Pressure at 5°F (p.s.i.g.)	24.0*	11.8	28.3
Condensing Pressure at 86°F (p.s.i.g.)	3.6	93.3	159.8
Freezing Point (°F) at 1 Atm. Pressure	—168	—252	—256
Critical Temperature (°F)	388	234	205
Critical Pressure (p.s.i. absolute)	635	597	716
Compressor Discharge Temperature (°F)	112	101	131
Compression Ratio (86°F/5°F)	6.24	4.08	4.06
Specific Volume of Saturated Vapor at 5°F (cu. ft./lb.)	12.27	1.46	1.25
Latent Heat of Vaporization at 5°F (B.t.u./lb.)	84.0	68.2	93.6
Net Refrig. Effect of Liquid—86°F/5°F (B.t.u./lb.)	67.5	50.0	69.3
Specific Heat of Liquid at 86°F (B.t.u./lb.°F)	0.21	0.24	0.34
Specific Heat of Vapor at Constant Pressure of 1 Atm. & 86°F (B.t.u./lb.°F)	0.13	0.15	0.15
Specific Heat Ratio at 86°F & 1 Atm. (k=Cp/Cv)	1.14	1.14	1.18
Coefficient of Performance	5.09	4.70	4.66
Horsepower/Ton Refrigeration	0.927	1.002	1.011
Refrigerant Circulated/Ton Refrig. (lbs./min.)	2.96	4.00	2.89
Liquid Circulated/Ton Refrig. (cu. in./min.)	56.0	85.6	68.0
Compressor Displacement/Ton Refrig. (c.f.m.)	36.32	5.83	3.60
Toxicity (Underwriters' Laboratories Group No.)	5A	6	5A
Flammability & Explosivity	None	None	None

*Inches of mercury vacuum.

FOR DEHYDRATING AND TESTING . . .
BEACH-RUSS
Portable
VACUUM PUMPS

Model O Single-Stage Pump—1 mm. vacuum, blank flange, 1 CFM, ¼ HP, weight 48 lbs.

Model A Two-Stage Pump—1/10 mm. vacuum, blank flange, 2.5 CFM, ½ HP, weight 80 lbs.

Write for prices and data.

BEACH-RUSS COMPANY
52 CHURCH ST. • NEW YORK 7, N. Y.

For more information about products advertised on this page use Information Center, page 31.

Carrier Laboratory Facilities--

(Concluded from preceding page)

and where electronic sound recording devices measure the amount of sound at the whole range of frequencies audible to the human ear.

In the room air conditioner "life test" area, batteries of room units are operated continuously under maximum temperature and humidity to find any weaknesses in design. A high humidity room checks the same equipment for "sweating" or water disposal when the air is saturated with moisture.

Capacity testing will be conducted in separate areas for room air conditioners, residential equipment, and for self-contained models used in commercial and industrial air conditioning under the precise standards and rating codes set up by industry associations.

In one of the largest rooms in the new laboratory, whole batteries of reciprocating refrigeration compressors can be tested simultaneously for cooling efficiency in relation to electrical consumption and operating conditions, and at the same time provide an electronic record of vibration characteristics.

In some of the rooms, rain and wind storms can be created to investigate window seals used for room air conditioners and the vulnerability of electrical systems to the action of the elements. A cold room for heat pumps has been built where sub-zero temperatures will help in developing equipment of the utmost efficiency in extracting heat from frigid air.

Some 24 central air conditioners use enough cooling in maintaining required temperatures in the rooms to handle more than 280 average size homes during the hottest summer.

The model shop can produce new air conditioning units from blueprints calling for tolerances as fine as one-tenth of one-thousandth of an inch, and a complete manufacturing laboratory has been set up to determine the most efficient production designs and methods.

Eugene Wood Bldg. To Be Conditioned

LOS ANGELES—Ground has been broken for construction of the air conditioned Eugene L. Wood building, slated for completion this spring at California and Garvey Ave., West Covina.

The building, comprising the northeasterly portion of the Central Shopping Area of West Covina, will contain 36,000 sq. ft. of sales area.

Gov't Symposium Will Cover Commercial and Industrial Conditioning

WASHINGTON, D. C. — A chance to discuss problems arising from commercial and industrial air conditioning with industry representatives will be given to civilian and military agencies of the U. S. government at a government-sponsored symposium which will be staged sometime during the first half of this year.

Preliminary plans to arrange such a symposium were laid at a pre-Christmas meeting of the commercial and industrial air conditioning manufacturers industry advisory committee. Representatives of the Commerce and Defense departments and the General Services Administration participated in the meeting.

Anemostat Acquires Substantial Interest In Waterloo Register

NEW YORK CITY—Anemostat Corp. of America, manufacturer of air diffusers and all-air high velocity systems, announces the acquisition of a substantial interest in Waterloo Register Co., Inc. of Waterloo, Iowa, manufacturer of registers and grilles.

"Anemostat and Waterloo will continue to operate individually as before, but the two organizations will work closely together in research and engineering activities, and in sales and marketing," it was stated.

Sears Subsidiary Buys Air Conditioning Div. Of Birtman Electric

CHICAGO — Mira-Cold Corp., a newly-formed subsidiary of Sears Roebuck & Co., has purchased the air conditioner manufacturing facilities of Birtman Electric Co., it was reported here.

Mira-Cold was formed for the purpose of acquiring this particular operation, located on Spaulding Ave. here.

Effective date of the sale was Dec. 31. Mira-Cold will make air conditioners for Sears, its only customer, it was explained.

C. W. Milligan, member of the Sears factory division, has been named president of the new subsidiary. E. G. Doris, general manager of Birtman's air conditioner division is vice president of Mira-Cold.

Drayer-Hanson Moves To Speed Service on Shaded Pole Motors

LOS ANGELES — A system designed to insure Drayer-Hanson customers rapid in-warranty and out of warranty service on General Electric shaded pole motors—a component of its "Spotaire-VRC" air conditioner line—is announced by the manufacturer.

"Utilized will be the 48-state network of some 387 General Electric small-motor service stations, located at key points, to provide customers with prompt, convenient motor repair and replacement service," Drayer-Hanson said.

"The service information, listing all outlets is available upon request."

RIGHT REFRIGERANT FOR EVERY NEED!"

genetron 113
TRICHLOROTRIFLUOROETHANE
Used in 25-ton and larger centrifugal compressors, primarily for large comfort cooling systems, brine cooling systems, and other commercial and industrial air conditioning and refrigeration systems.

genetron 114A
DICHLOROTETRAFLUOROETHANE
Used in centrifugal and rotary compressors for commercial, industrial and household refrigeration.

genetron 113 PURPLE LABEL — genetron 114A DARK BLUE LABEL

$C_2Cl_3F_3$	$C_2Cl_2F_4$
187.4	170.9
117.6	37.6
27.9*	15.6*
13.9*	22.7
—31	—76
417	294
495	478
86	88
8.02	5.33
27:04	4.04
70.6	60.2
53.7	43.0
0.22	0.23
0.15	0.16
1.09	1.01
4.92	4.60
0.960	1.025
3.73	4.65
66.5	88.7
100.76	18.78
4-5	6
None	None

genetron® SUPER-DRY REFRIGERANTS

COMPARE!

Careful control at every step in the manufacture of "Genetron" Super-Dry Refrigerants results in products of highest purity, which are extremely low in moisture content and other undesirable impurities. The quality of current production consistently surpasses the rigid manufacturing specifications listed for these products.

- Guaranteed exceptionally low moisture content
- Non-corrosive to standard equipment materials
- Non-toxic, non-flammable, stable, safe
- Critical and freezing points well outside range of operating uses
- Solvent action on oil helps prevent solidification or congealing of lubricant
- Aid in lubrication of equipment; generally miscible with oil
- Freely interchangeable and may be mixed in any proportions with comparable fluorinated hydrocarbon refrigerants meeting the same strict refrigerant specifications
- Approved and certified as original or replacement charge by leading refrigeration equipment manufacturers
- Available everywhere . . . see your refrigeration wholesaler

Allied Chemical

For further information
SEE YOUR
REFRIGERATION WHOLESALER
or call or write

genetron DEPARTMENT
GENERAL CHEMICAL DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 Rector Street, New York 6, N. Y.

AIR-CONDITIONING MOTORS
NEVER BURN OUT
when protected with
MIGHTY MITE MOTOR PROTECTORS
UL
MECHANICAL INDUSTRIES PRODUCTION COMPANY
223 ASH STREET • AKRON, OHIO

Hotpoint Line for 1957--

(Concluded from Page 1, Col. 3)

"Regency" model, it was noted. Depending on size, room units are available for 115-v. or 230-v. power service. With a transformer, two "sill-o-ette" models can be operated on 208 v.

Dimensions of the Regency are 27 1/16 in. high, 27 3/8 in. wide, and 29 1/4 in. deep, according to Hotpoint officials. In addition to the automatic thermostat and electrostatic filter, the Regency has a three-speed fan, concealed pushbutton controls, and directional louvers for air circulation. A slide-out chassis can be moved forward for access.

'Sill-o-ette' Room Units Lead Line

Three "sill-o-ette' room air conditioners are termed style leaders by the company. This series is 17 in. deep and 16 1/2 in. high. Units can be installed in any 32-in. wide window, Hotpoint said, permitting flush wall installation with "no outside overhang or lost floor space." Models are available in 1 and 1 1/2-hp. units with B.t.u. ratings from 8,535 to 12,380.

Standard equipment includes three-speed fan, directional louvers, pushbutton controls, automatic thermostat, and permanent electrostatic filter. Interchangeable decorator front panels are also available at no extra cost for these units, it was added. They are claimed to remove up to 12 gals of water from humid air every 24 hours.

"Budget model series" in Hotpoint's 1957 room air conditioner line is called "wind-o-slim," officials stated. Four models are available ranging from a 3/4-hp., 115-v. to a 1 1/2-hp., 230-v. unit. Deluxe features include directional* air louvers, permanent filter, automatic thermostat, and master control dial that turns the unit on and off, circulates air, and sets thermostat. Outer knob of this dial opens and closes exhaust vents, it was explained, and three different interchangeable "fashion-styled" front panels in pastel colors are available.

'Out Front' Refrigerators

Hotpoint's "out front" 1957 refrigerator line has "many" models available with safety-lock rollers to simplify cleaning, it was stated.

The new combination 18.4-cu. ft. refrigerator-freezer (7EP18), line style leader, requires the same floor space as standard 12-cu. ft. model, company officials claim. Total capacity is 11.1 cu. ft. for fresh foods and 7.3 cu. ft. for frozen foods. Both compartments have cooling systems to insure correct storage temperatures.

All new refrigerators have brushed aluminum door panels and sculptured door handles, it was pointed out. Both one and two-door models are offered along with upside-down "Eye-Hi" units.

A new "light touch" safety door latch is built into all refrigerators, officials indicated. Only a "slight touch from outside or inside" is required to open the doors.

Two 12-cu. ft. combination models (7ER12, 7EW12) lead the two-door line, Hotpoint said. Except for a "Big Bin" storage shelf on the door, both units are identical. This replaces the former vegetable crisper and is said to hold more than 4 gals. of milk, beverage bottles, and about two-thirds bushel of fresh vegetables in the removable compartment.

Both two-door combinations have automatic defrosting systems, aluminum door shelves for butter, cheese, eggs, and bottle storage. Glide-out aluminum shelves can be adjusted up and down. Freezer capacity in both is 91 lbs.

NEW combination refrigerator-freezer with 18.4-cu. ft. storage capacity offered for 1957 by Hotpoint has "Big Bin" storage in refrigerator door.

Another 12-cu. ft. model (7EG12) is offered as a single door unit with a 75-lb. food freezer. This model has automatic defrosting, two vegetable crisper drawers, butter bin, aluminum shelves, and four-door shelves, the company stated.

Four additional 11-cu. ft. refrigerators and two 8-cu. ft. models complete the 1957 series. There are three combination units and three standard models with full width freezer storage.

Upside-Down Model

One model (7EL11) is an upside-down Eye-Hi combination unit with a 123-lb. freezer at bottom. It has three aluminum door shelves and separate storage areas for butter, eggs, and cheese, it was noted. Over 20 sq. ft. of shelf area is provided for food storage. The lower full width shelf can be divided for storage of bulky items while the freezer compartment has a glide-out metal basket and quick freezing shelf, the firm added. A juice concentrate rack and top-down shelf for frozen food packages are built into the freezer door.

Models 7EG11, 7EH11, 7EL11, 7EW12, and 7ER12 are available in pink, yellow, green, brown, blue, white, and coppertone.

Two upright freezers, style-matched to the refrigerator line, are offered in 12-cu. ft. and 18-cu. ft. sizes, Hotpoint announced. Model 7FM12 will hold 417 lbs. and model 7FM18 630 lbs. at constant zero.

Features of both include automatic temperature controls, light touch safety doors, one-piece wrap-around steel cabinet, tilt-down door racks, juice rack that holds 25 cans in five separate rows, adjustable shelves to accommodate all sizes of packages, and large storage baskets.

Of the three chest type freezers available, model 7FK17, a 17-cu. ft. unit, has 595-lb. capacity. Model 7FK19, a 19-cu. ft. freezer has 672-lb. capacity, and 7FK26, a two-door unit, has 907-lb. capacity.

All chest freezers have fast freezing compartments refrigerated on all sides, new sliding baskets keep all frozen foods accessible, and vertical wire separators divide cabinet space into sections, the company said.

An automatic temperature control permits the user to select any freezing degree from zero to -10°, it was pointed out.

MUELLER CLIMATROL SALES CLIP
. . . CLIMATE CONTROL FOR HEALTHFUL LIVING
100

Millions Listen when Cathy Climatrol Says, "This Makes it a Real Home!"

THAT's Cathy Climatrol — new symbol of success for Mueller Climatrol dealers. Star of our national advertising campaign — appealing to interested, able-to-buy prospects — Cathy projects a vital message. Dramatizes the fact that Mueller Climatrol comfort is one of today's biggest values for healthier, happier family living.

1957 is Mueller Climatrol's Centennial year . . . and we're out to make it a profitable celebration for you. There'll be national advertising to build instant customer-recognition of Mueller Climatrol as America's quality heating-cooling line. There'll be hard-hitting, pretested promotional materials and sales programs. And, of course, there'll be a host of units . . . priced right for profit.

High-Styled Comfort Twins Spearhead Line

The best in year-round air conditioning. These great new Mueller Climatrol comfort companions with centennial gold front forecast even bigger things to come. Styled by Brooks Stevens, world-famous industrial designer, they offer engineering features others can only copy, never equal. What's more, you can install automatic heating now — cooling later for extra profits.

CELEBRATE YOUR BIGGEST PROFIT YEAR

with Mueller Climatrol — today's biggest value for healthier, happier living. Write for full details or see your man from . . .

Mueller Climatrol

2056 W. Oklahoma Ave., Milwaukee 15, Wis.

For more information about products advertised on this page use Information Center, page 31.

Offers Seven Ways for Dealer To Help Salesman Be Creative Merchandiser

NORFOLK, Va.—"Why keep picking on the salesman? He's racking up nearly 200 billion dollars worth of retail sales this year, an all-time record for salesmanship."

That was the central theme of a talk to the Norfolk Electrical League here by John J. Anderson, manager of the Westinghouse major appliance division. He said everyone has accepted change in product and production methods but somehow feels the salesman's methods should still be those of the "Roaring Twenties."

"Maybe salesmen don't get out pounding pavements and punching doorbells like they did in 1925," Anderson observed, "but who does the same things he did then in the same way? Just because today's salesman doesn't ride 25 miles bareback through a blinding blizzard to get an order doesn't mean he isn't selling. He's still getting the order and a bigger one at that!"

3 REASONS MEN SELL PRICE

Anderson admitted that many a salesman today is selling price beyond merchandising specials. He does this for three fundamental reasons, the speaker said: over-production, poor engineering, or poor planning. Factories and business owners guilty of these mistakes force the salesman to sell price alone, he added.

"If we want the salesman to be a creative merchandiser as he once was, let's tell him and give him a helping hand," he said. "But we can't keep swamping him with five carloads of merchandise a week and expect him to spend two days selling each piece. If we insist on volume, and most of us do, let's recognize that volume selling differs from specialty selling."

The big trouble, however, he said, is that manufacturers, distributors, and dealers have been so busy with growing complexity of appliance business problems that they have not had enough time to guide salesmen to do what is needed.

"The American people are hungry to be sold," Anderson said. "They want a salesman to sell them. But we've been so busy being black crayon experts and concentrating on price appeal, we've ignored selling."

OUTLINES PROGRAM

He outlined a program dealers could follow if they wished their sales force to be creative specialty operators as well as volume price merchandisers.

First, use factory and distributor help and continually conduct training sessions in both product and technique.

Second, make selling worth while financially with a bonus for creativity. And when the salesman begins to do well, don't change the method of compensation, thus cutting his income.

Third, have hooked-up floor demonstrators of all products, including 230-volt items. ("Dealers without 230-volt current in their stores are asking prospects to buy an appliance using a type of current the dealer sells against himself.")

Fourth, have reasonable employe purchase plans for salesmen. Surveys have shown salesmen who own the appliances sell four times as many as those who don't.

Fifth, dealers should use the displays they get from the factory both to attract attention to the product and cue salesmen.

Sixth, keep floor samples clean. Good housekeeping of demonstrators backs up the quality and utility story.

Seventh, be sure salesmen are familiar with national and local ads before they break, that the salesmen are trained in the advertised products and that the products are on the floor.

Amana Names Guertin Builder Sales Chief

AMANA, Iowa—To coordinate and expand sales of built-in refrigerators and freezers, and central air conditioning systems to builders, Amana Refrigeration, Inc., has established a new builder sales department.

J. E. Guertin

The department will be headed by Joseph E. Guertin, it was announced by J. A. Rishel, Jr., general sales manager.

"Our successful introduction of built-ins and central air conditioners this year has created the demand for intensified sales effort on builder products through our regular Amana distributors," Rishel said.

NEMA Sees Refrigerator, Freezer Sales Up In '57

NEW YORK CITY—The National Electrical Manufacturers Association estimates that 3,700,000 electric household refrigerators and 975,000 home and farm freezers were sold during 1956.

According to figures reported by Joseph F. Miller, managing director, and A. J. Nesti, chief statistician, this represents an 11.9% drop from 1955 for refrigerators and an 11.4% decline for freezers.

Miller and Nesti, however, predict that both appliances will do a bit better in 1957. They expect refrigerator sales this year to hit 3,900,000 units and freezers to reach the 1,000,-00 mark.

These estimates are still somewhat short of 1955 sales, it was noted.

'Sale-a-Minutemen' Lead Frigidaire 6-Week Contest

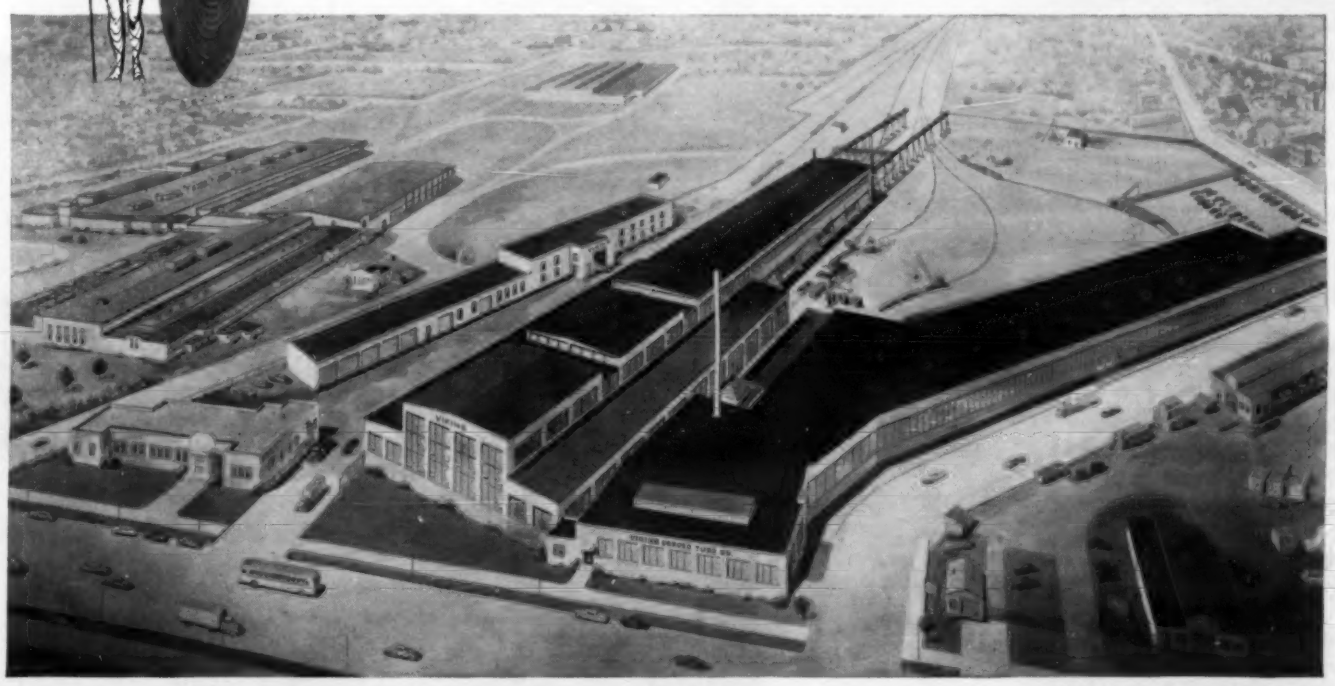
DAYTON — Top winners in Frigidaire's "best seller" contest were flown to Dayton from all parts of the country recently as guests of the General Motors Div.

According to C. H. Menge, general sales manager, Frigidaire's "sale-a-minutemen" rolled up an impressive $2,500,000 in retail orders during the six-week contest ending last Aug. 31.

During their two-day stay, the blue-ribbon salesmen were hosted by Frigidaire General Manager H. F. Lehman and other division executives.

Richard Biggs was the top winner in the contest. Employed by Leonard's Airport Village, Frigidaire dealer in Culver City, Calif., Biggs outsold thousands of competing Frigidaire retail salesmen during the promotion.

there is a difference in copper tubing . . .



the difference in VIKING is . . .

a modern plant, SPECIALLY DESIGNED for the production of the Thin Wall COPPER TUBING

A spacious, modern, automated plant . . . specially designed and constructed for the sole purpose of fabricating thin wall copper tubing . . . is a key "difference" contributing to the superior quality of VIKING copper tubing.

In these up-to-the-minute facilities VIKING is using the very latest machinery and quality control devices designed for the production of thin-wall tubing. This equipment, combined with highest grade materials and "know-how", assures the highest standards of accuracy, uniformity and finish in VIKING copper tubing.

VIKING's superiority in quality is being constantly translated into lower costs by fabricators and is one more reason why more and more manufacturers are specifying VIKING copper tubing for air conditioning units and coils.

VIKING copper tubing continues to be the result of the combined efforts of skilled craftsmen seeking always to create a tubing that will do the job better, faster and at lowest cost.

VIKING COPPER TUBE CO.
CLEVELAND 10, OHIO

PRECISION DRAWN SEAMLESS COPPER TUBING

BENDING TEMPER
The proper kind of strength and ductility is vital in tubing used for refrigeration and air conditioning purposes. VIKING copper tubing possesses these properties to a far greater degree than other types of tubing. Its temper assures flawless fabrication.

ABSOLUTE, UNVARYING STRAIGHTNESS
A battery of electrically controlled straightening machines keep VIKING copper tubing absolutely, unvaryingly straight. In addition, these machines precisely temper the tubing, imparting to it the correct surface hardness . . . assuring ease in fabrication resulting in substantial savings in time and labor.

ELECTRONIC QUALITY CONTROL
An electronic "Brain" detects the minutest flaw or imperfection in the walls of VIKING tubing . . . automatically discarding defective tubing. Trouble-free fabrication is virtually guaranteed — operational failures almost completely eliminated.

NAPC Joins MCA, Mfrs. as Better Heating-Cooling Council Membership Surges to 45; Sees Doubled Enrollment In '57

NEW YORK CITY — Announcement of doubled membership and formation of "the industry's first unified promotion backed by manufacturers and contractors in a permanent organization" highlighted the first annual meeting of the Better Heating-Cooling Council, giving the ten-month-old organization "a unique status in the history of the hot water heating industry."

Report 10% Sales Gain In 1956

This, coupled with reports of a 1956 industry sales gain of 10%, was made clear when expanding plans for future action were laid out before the council's membership at the Savoy-Plaza hotel here, the council said.

Reporting for the membership committee, Chairman James H. Legg (Federal Boiler Co.) stated that the council's growth had been "phenomenal," increasing during the first 10 months from the original 20 to more than 45.

"This is particularly gratifying," Legg said, "in view of the fact that the program was just getting off the ground. Now that we have something tangible to show for our promotional efforts, we should have little difficulty doubling council membership again in 1957 to make the program even more broadly based."

In a surprise announcement at the meeting, Council President John E. Reed (H. B. Smith Co., Inc. and Sterling Radiator Co., Inc.), announced that the National Association of Plumbing Contractors had become the 47th council member.

The Mechanical Contractors Association of America joined in June, 1956.

Reed commented that "by becoming council members, contracting associations have, for the first time in the industry's history, joined with manufacturers to unify this industry's sales approach and to improve its promotional methods."

William A. Landers, NAPC president, and Lloyd B. Gruman, Jr., MCA secretary, also addressed the council, expressing their support for present efforts and future plans.

Reed also pointed out that sales of hot water heating systems for homes gained about 10% in dollar volume in 1956 over 1955. Unit volume is up approximately 5%, he said.

'57 Activities Blueprinted

Members from manufacturing companies and contracting groups turned out in large numbers for the two-day meeting to hear reports of the council's initial operation and to approve blueprints for activities in 1957. They also participated in a workshop session with a panel of speakers consisting of one executive from each medium in the field of mass communications.

Among the proposed projects for 1957 reported by the Public Relations Advisory Committee are:

An all-industry Housing Congress, spearheaded by the council and supported by other associations in the building materials field to explore new areas of family needs. The congress would invite women delegates to express their opinions on basic components in good home building, then guide their thinking along factual and technical lines.

Completion of a color cartoon movie on quality heating for consumer and trade show promotions.

An editorial conference for important consumer editors, using new and unusual methods for telling the factual story of quality heating and cooling.

Consumer and builder information booklets.

A continuing barrage of newspaper, magazine, radio, and TV publicity and promotion from the council staff, to further increase consumer demand for quality heating and cooling.

Two special projects which produced immediate publicity and promotional benefits for the industry in 1956 were:

A round table conference for editors of shelter and general magazines, building publications, television, and newspapers. Purpose: to educate the educators, so that they in turn could properly inform their audiences of the advantages and advances of liquid heating-cooling systems. The conference also established the council office as a central source for editorial information on home heating and cooling.

Better Heating-Cooling Week, which was observed across the nation Aug. 6-13. The special "Week" promotion was highlighted on five local and network TV shows, reaching an audience estimated at over 10,000,000. The week was climaxed by the first all-industry news conference for leading real estate, financial, and feature newspaper editors.

Work on a third special project, an industry sound color movie, was started in 1956 and will be completed soon.

Franklin Greene, council executive director, reported the effects of staff activities, explaining how industry publicity and promotion during the first 10 months "hit every important target group and made use of every appropriate medium of communications."

Council officers elected for 1957 were: John E. Reed, president; Thomas L. Arnold, vice president; Paul K. Addams, vice president; and Robert E. Ferry, secretary-treasurer.

Three new directors were elected: R. Edwin Moore (Bell & Gossett Co.), Landers (NAPC), and Thomas L. Arnold (Fedders-Quigan, Inc.). Another director will be named shortly as a representative of the Mechanical Contractors Association of America, it was indicated.

A featured guest speaker at the meeting was Albert M. Cole, Housing and Home Finance Agency administrator. Cole defended the Government's recent action in raising the maximum interest rate on FHA-insured home loans. The increase, he explained, is designed to relax tightness of mortgage money and make available more funds for low and medium income families.

ANOTHER PROGRESS REPORT FROM GENERAL ELECTRIC ENGINEERS

Here's what the air conditioning

GENERAL ELECTRIC'S
BUILT-IN SERVANTS

MagicMaid
"I cleanse the air—electrostatically"

HouseMan
"I circulate air—for healthful comfort"

WeatherMaid
"I adjust temperature—automatically"

These are the fabulous BUILT-IN SERVANTS that will call America's attention to General Electric Whole-House Air Conditioning—and to the dealers who feature it. Get ready to capitalize on the biggest idea in many a year—and see what it does for your sales.

For more information about products advertised on this page use Information Center, page 31.

Bureau of Census Reports

Air Conditioning, Commercial Refrigeration Distributor Sales Up 6% In First 10 Mos. of '56

WASHINGTON, D. C.—A 7% rise in sales was reported by air conditioning and commercial refrigeration equipment distributors in the October Bureau of the Census compilation as compared with the same month of 1955.

In addition, the distributors' sales rose 4% over September, 1956, and 6% in the first 10 months of last year compared with the same period in 1955.

Electrical appliance, television, radio set, and electronic parts distributors' sales climbed 9% in October over the 1955 month, moved 4% ahead of September, and sustained a 5% rise in the first 10 months compared with the first 10 months of the previous year.

October's month-end air conditioning and commercial refrigeration equipment inventory totals were up 8% over October a year ago, but dropped 2% from September, 1956.

Electrical appliance, TV, radio set, and electronic parts distributors boosted inventory 23% at the end of October, 1956 over the same month a year earlier. They were up 4% compared with September of 1956.

Sales of all types of merchant wholesalers, after a September decline, jumped 13% during October and were 12% higher than October sales one year ago. Cumulative sales for the first 10 months of 1956 were 9% above the comparable period of 1955.

Mfrs. Compressor Shipments--

(Concluded from Page 1)

the basis of reports from 17 manufacturing companies, estimated to represent more than 90% of total U. S. production of compressor bodies of the types covered.

Of the nine months shipments, 3,169,098 or 87.1%, were sold by manufacturing companies as compressor bodies, compressors of condensing units.

The remainder, 471,112, amounting to 12.9%, were sold by the manufacturers in unitary end-use products, such as room or self-contained air conditioners, display cases, commercial refrigerators, and similar products.

Other manufacturers purchased 3,006,270 units, representing 82.6%, and distributors, jobbers, dealers, retail customers, and other non-manufacturers accounted for the remainder, largely in end-use products.

(Figures on these sales do not include units for household refrigerators, automotive air conditioning, or those designed for use with ammonia refrigerant.)

Largest shipments reported for any single size-category were those of 1-hp. units, which accounted for 692,016 of the total, closely followed by ¾ hp., with 644,465, and ¼ hp., 635,479.

About the same ratio was noted in the 1955 figures as between 1 and ¾-hp. units and total shipments, but in 1956 the ratio of ¼-hp. units to the total was considerably lower. The 635,479 shipped in 1956 represented about 16% of the total shipments, and the 612,125 in 1955 were more than 21% of the total.

Another significant change in ratio was shown in the 1½-hp. size category. In 1955 the 152,568 compressor bodies of this size shipped in the first nine months represented 5.4% of total shipments; the 285,569 units reported in the same period of 1956 accounted for 7.8% of the total.

A tabulation follows:

MANUFACTURERS' SHIPMENTS OF COMPRESSOR BODIES PRODUCED BY REPORTING COMPANIES

(Except for household refrigerators)

	Shipments Including Exports	
Horsepower*	**Sept. 1956**	**Jan.-Sept. 1956**
⅛ & under	43,249	451,984
¼	51,031	635,479
⅓	25,377	257,924
½	35,298	377,853
¾	30,439	644,465
1	98,062	692,016
1½	31,740	285,569
2	4,078	63,562
3	7,148	99,383
5	4,418	77,180
7½	1,813	34,502
10	481	7,893
15	278	3,059
20	183	2,292
25	119	1,545
30 & over	461	5,504
Total	**334,175**	**3,640,210**
For Ammonia Refrigerant—Total	156	1,574
For Automotive Air Conditioning—Total	12,779	218,489
Grand Total	**347,110**	**3,860,273**

*For all refrigerants **except** ammonia (excluding units for automotive air conditioning).

Reporting companies: Airtemp Div., Chrysler Corp.; Brunner Mfg. Co.; Carrier Corp.; Copeland Refrigeration Corp.; Curtis Mfg. Co., Refrigeration Div.; Frick Co., Inc.; Frigidaire Div., General Motors Corp.; General Electric Co., Kelvinator Div., American Motors Corp.; Lehigh, Inc.; Servel, Inc.; Tecumseh Products Co.; Vilter Mfg. Co., The; Westinghouse Electric Corp.; Worthington Corp.; York Corp., Subsidiary of Borg-Warner Corp.

This summary includes all compressor bodies shipped by the reporting companies **regardless** of whether they were shipped separately or incorporated into a condensing unit or unitary end-use product (such as a room air conditioner, display case, freezer, or commercial refrigerator). Shipments for export are included. Shipments for household refrigerators are **not** included.

In order to avoid duplication of reporting, shipment figures were requested only from companies that assembled the machined compressor casting with the components necessary to make a complete compressor or motor-compressor assembly.

field has been waiting for!

NOW WHOLE-HOUSE AIR CONDITIONING!
greatest advance in year 'round comfort.....yours for as little as $20.00 a month
Another Progress Report from General Electric Engineers
WHOLE HOUSE
BUILT-IN SERVANTS
featuring
GENERAL ELECTRIC'S
Progress Is Our Most Important Product
GENERAL ELECTRIC

Ads like these... Big, dramatic eye-stopper magazine ads like this will reach a tremendous audience—the best home-owner prospects from coast to coast ...and make them want to find out more about the whole-house air conditioning system with the fabulous BUILT-IN SERVANTS. And that's only half of it—you'll have hard-hitting newspaper campaigns and powerful promotions working for you right in your own community—month after month. Get the details from your General Electric Home Heating and Cooling Distributor now or write us—so you can tie-in with this campaign right from the start. General Electric Home Heating and Cooling Department, Tyler, Texas.

Progress Is Our Most Important Product

GENERAL ELECTRIC

Army Sets Permanent Sites Of Conditioned Dental Vans

DETROIT—One of the 12 newly-developed air conditioned mobile vans for field use as dental clinics will be based permanently at 6301 W. Jefferson, Fort Wayne, Detroit, the Dept. of the Army has announced.

Delivery is scheduled by the end of January, 1957. The other 11 vans will be based at Lordstown Ordnance Depot, Warren, Ohio; Fort Lawton, Wash.; Fort MacArthur, Calif.; Fort Dix, N. J.; Fort Meade, Md.; South Park Military Reservation, Broughton, Pa.; Fort Devens, Mass.; Philadelphia Quartermaster Depot; and Fort Belvoir, Va.

The Army said it expects to save $1,500,000 yearly when the clinics become operational.

The new mobile clinics—30-ft., standard-width vans costing approximately $192,000—will take dental services to remote military areas of the United States which lack such facilities.

Equipped with air conditioning and capable of operating independently or from fixed electrical and water outlets, the units will provide complete dental care.

Inside Dope

By GEORGE F. TAUBENECK

(Continued from Page 1, Col. 1)

M. Brown and J. K. Touborg, Frank formed the Refrigeration Sales & Engineering Co., a corporation associated with Tecumseh Products Co. These allied firms then proceeded to make industry history in a fabulous manner.

To say that their dedication to their jobs was rewarded is to put it mildly. Frank, for example, owned a country club outright. Even more admirable are the countless charities to which he and his associates contributed, often anonymously.

Last time this writer saw Frank was in August, 1956, at his 25th wedding anniversary party. Nobody ever has seen a happier or more radiant man, and this is the final memory we shall cherish always.

Long-Term Goals

Frank Smith was a consummate politician, in the highest sense of that word. Likewise his beautiful wife, Edith. Together they did a great service to our industry by smoothing bumps in the road toward competitive cooperation.

The politician's task is to keep his sights set on long-term goals, which can only be attained if the legitimate demands of all groups are kept in proper balance. He must not be stampeded into decisions favoring one group or the other, simply because it is the easiest way to "get off the hook" of an immediate crisis.

There will be, for example, economic or competitive situations when the customer can be more easily satisfied and won over by unwarranted concessions.

Immediate employe relations may seem to be improved, or threatened crises averted, by giving in to every demand. Is the employe truly served if the costs of labor become so high that his employer cannot successfully compete? And, is the public and community well served if salaries and wages in the community rise so much more rapidly than other factors in the economy that other industries are driven away from the community?

In that connection let's cite the case of Tecumseh.

A Lesson In Civics: Tecumseh Unlimited

BRH (before Ray Herrick) Tecumseh, Michigan, was a self-satisfied town of 4,000 take-it-easy small town citizens. It was near—but not anything like—Detroit, Michigan.

Last time we looked, its population was more than twice that 4,000 figure. And now Tecumseh has an extra $400,000 school and a new sewage disposal plant. Plus the Herrick Memorial Hospital, a $60,000 swimming pool, streets being paved, septic tanks eliminated, and new homes being occupied at a fabulous rate.

This is all ARH (after Ray Herrick and his cohorts) transformed sleepy Tecumseh into a wide-awake, growing *city*.

Herrick and his associates have paid the tab for these civic improvements, incidentally.

And that's a rarity. Less civic-minded men might have spent their money in Bar Harbor, Palm Beach, New York, or Monte Carlo. These fellows ploughed back their earnings into the welfare of their home town.

Tecumseh Products operates the largest factory in that town. More than 3,500 workers, gathered from all around the surrounding country-side, manufacture compressors and condensing units there at an amazing rate. They're the biggest compressor manufacturers in the world.

BRH almost the only thing about which Tecumseh could boast was that its St. Peter's Church was the oldest Episcopal edifice west of the Allegheny Mountains.

In recent years, however, a sequence of events has tied Tecumseh to an imaginative Wheel of Fortune. To begin:

Henry Ford purchased an old Tecumseh flour mill and converted it into an automobile parts plant. He fixed up the mill wheel and got it running (although it never produced sufficient power for his plant).

Next came the nationally famous Perry Hayden wheat project. Hayden, with a fanfare of publicity, planted kernels of wheat which could fit into a cubic inch. Gave one tenth of the harvest to his church, and used the remainder for seed. Additional wheat seed he passed on to farmers who also promised to give one tenth of their harvest to the church.

Happily going along with the Tecumseh idea, Henry Ford planted thousands of acres of his nearby land with Hayden "church wheat." The project outgrew itself, and went the way of chain letters.

Another Ford project was that of restoring St. Peter's Church to its original colonial beauty. This church was founded in 1833, nine years after the establishment of the town. Andrew Jackson, Henry Clay, and Daniel Webster were among its first contributors. Ford died before that project got going.

Thanks to Herrick and his Tecumseh Products associates, however, restoration of this ancient church (on the pine-topped hill atop its former ecclesiastical heap) is in progress.

Obviously Tecumseh Products *wants* its home town to continue growing. Really, this fantasticly successful refrigeration firm *needs* to promote hometown projects which will benefit both Tecumseh and Tecumseh Products. Declares Ray Herrick:

"Eventually we will need a population of 15,000 or more to take care of our planned growth."

Apparently, all you need to transform a tired old town into a growing metropolis is dynamic energy, as spelled out by such men as Ray Herrick, Joe Layton, Frank Purcell, T. W. Rundell, and the late Frank Smith.

Tecumseh proves the point.

(Concluded on next page)

BOHN *Presents the* NEW ANGLE

...daring plans...product diversity...fresh policy

New management . . . creative engineering . . . expanded laboratory, increased production facilities, and additional sales personnel are implementing unique new policies and a dynamic sales program for you. *That's the NEW ANGLE!*

Betz Division engineers have designed and tested a complete new line of self-contained air conditioning units, remote air handling equipment, air-cooled condensers, low temperature automatic defrost units, cooling towers and evaporative condensers for refrigeration and industrial air conditioning applications.

The new plant encloses 160,000 sq. ft. of floor space. Its central location provides excellent rail, truck and air service. BOHN warehouses are also strategically located in New York, Texas and California.

New catalogs describe the BOHN line. Write for your free copies or other pertinent information on *the NEW ANGLE.*

BETZ DIVISION BOHN DANVILLE, ILLINOIS

Manufacturers of Commercial Refrigeration, Industrial Air Conditioning and Special Heat Tranfer Surface

BOHN ALUMINUM & BRASS CORPORATION · BETZ DIVISION · DANVILLE, ILLINOIS

See Our Exhibit in Chicago at this year's International Heating & Air Conditioning Exposition, Feb. 25 - March 1.

SUPER-FLO

MASSIVE DEPTH FILTERING!

FILTER-DRIERS

Super-Flo's massive fiberglas depth filter and a molded drying element increase foreign matter, moisture and acid removal. Write for low prices.

AVAILABLE TO THE TRADE THRU WHOLESALERS EVERYWHERE

REMCO INC.
ZELIENOPLE, PA.

For more information about products advertised on this page use Information Center, page 31.

Inside Dope

By GEORGE F. TAUBENECK

(Concluded from preceding page)

Respectability vs. Lovingkindness

Widely-read philosopher Sydney J. Harris opines:

"Jesus preferred to consort with 'publicans and sinners' rather than sit among the Pharisees who obeyed the rituals of religion but violated its spirit. Indeed, His entire protest against the conformists of His day was that they were smug in their virtues, that they looked down upon thieves and prostitutes, that they were so busy observing the niceties of the law that they neglected to love and succor their less fortunate brethren.

"Jesus inveighed against the philanthropist who gave to charity only so that he would be publicly known as a charitable man, as a kind of bribe to get into Heaven. He assailed the narrow purists who thought it was more important to wash their hands than cleanse their souls. And He, in turn, was bitterly attacked by them for associating with winebibbers and other disreputables on the fringes of respectable society.

"There is every indication that Jesus preferred generosity of spirit to scrupulous regards for piety. Much of what passes for 'religious education' is merely a kind of tepid moralizing. Piety has become identified with goody-goodiness, with primness, with the small, neat virtues so easily practiced by people who think thereby to escape the necessity of genuine brotherhood.

"I would not want to spend eternity in a place inhabited by the dull, the unimaginative, the timid, and the merely proper—this is not the Heaven of the Bible. Heaven if it exists, is populated by men and women who have learned how to love, widely and deeply and boldly, no matter how evil their actions seem to be in the eyes of 'good' people.

"It is worth remembering that only one human being ever received Jesus' personal assurance of going to Heaven. He was a thief."

Trinity Equipment To Move To New $300,000 Plant

ROSELLE PARK, N. J.—Trinity Equipment Corp., producer of temperature measurement instruments and dehumidifying equipment, will end plant operations here about six months after completion of a new plant at Cortland, N. Y., George R. Feely, president, announced. He said the $300,000 plant will be finished about January, 1958.

ASRE Group Hears Wallace

EVANSVILLE, Ind.—Frank Wallace, entomologist for the State of Indiana, was guest speaker at a Ladies' Night meeting of the local section of the American Society of Refrigerating Engineers. At an earlier meeting, James Greig, chief engineer of Woodall Industries, Inc., Detroit, spoke on "Why New Materials for Products."

Pacific Coast ASRE Sections To Hear President Ashley at January Meetings

SAN FRANCISCO — Pacific coast sections of the American Society of Refrigerating Engineers will welcome their president, Carlyle M. Ashley of Syracuse, N. Y., as the speaker for January meetings.

To the sections that will hear him in January, Ashley offers a choice of two sound talks: "Sound, A Design Factor In Air Conditioning and Refrigeration," and "The Future Challenges the ASRE."

Ashley wrote that advantages of the new arrangement the six coast sections have worked out so their meetings fall in orderly sequence within a 10-day period each month are so attractive that ASRE through regional directors is trying to set up a similar sequence in each region.

ASRE is trying to arrange these regional sequences so they will follow sequences of adjacent regions, with the object of making it possible for a single speaker to cover at least two regions in orderly fashion and within a limited period of time.

Ashley addressed the Colorado section at Denver on Jan. 11. His schedule follows:

Western Canada section at Vancouver, B. C., Jan. 14; Pacific Northwest section at Seattle, Jan. 15; Oregon section at Portland, Jan. 16; Los Angeles section, Jan. 21; San Joaquin section at Fresno, Jan. 22; San Francisco section, Jan. 23.

Philadelphia Group Offers Course In Residential Air Conditioning

PHILADELPHIA — Application and installation will be stressed in the eight-week training course in Residential Air Conditioning for dealers being offered this year by the Electrical Association of Philadelphia.

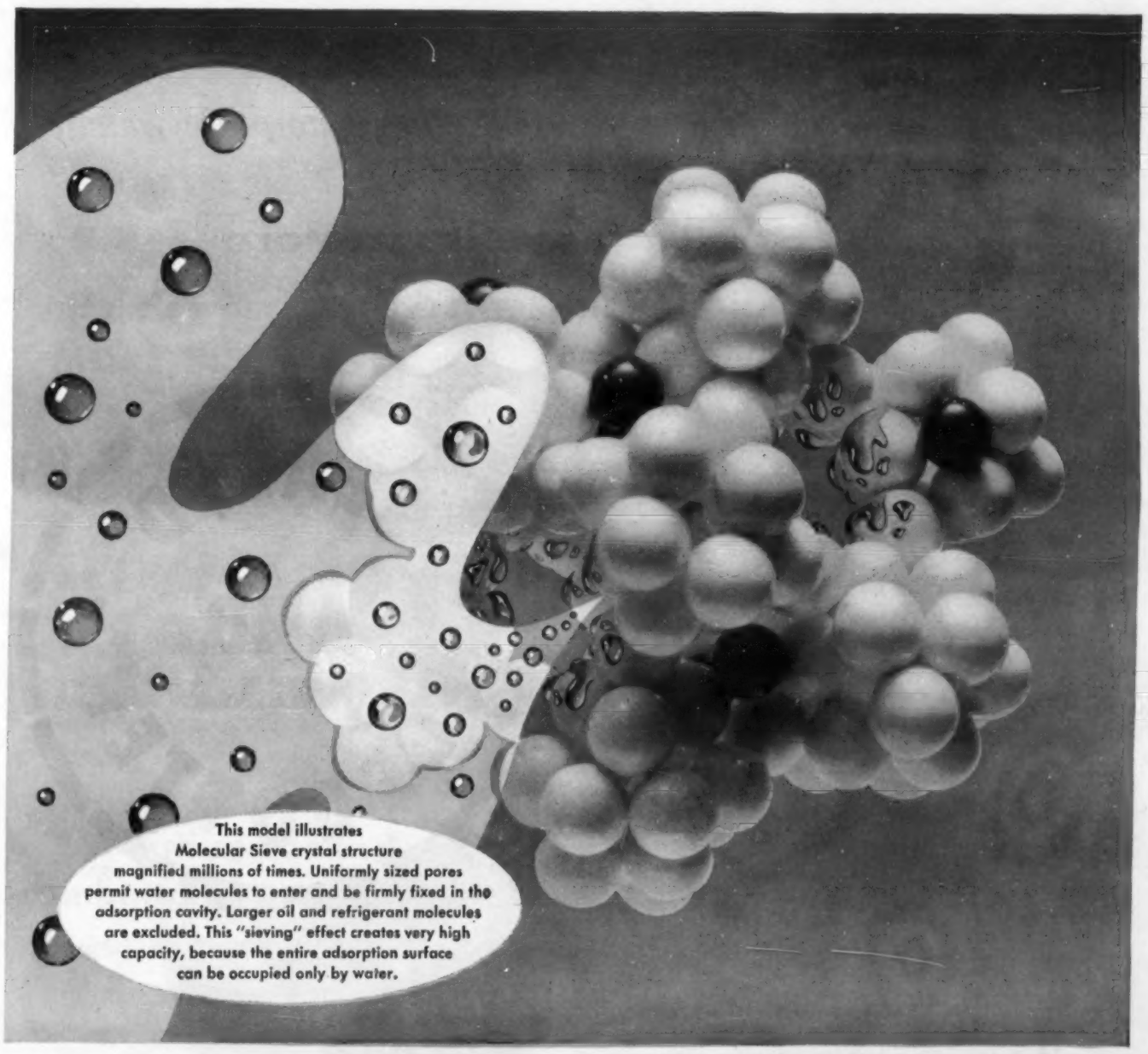
Beginning Jan. 16, sessions will be held from 8 to 10 p.m. every Wednesday evening until March 4 in the second floor auditorium of the Edison Bldg. at 9th and Sansom Sts. here.

Course will be conducted by Prof. Joseph C. Greyson of Villanova university, who has wide experience in training programs for air conditioning personnel.

The residential course is part of the broadened program of activities planned by the Philadelphia association's Air Conditioning and Refrigeration Div. headed by William C. McMichael of Bryant Air Conditioning Corp.

Three major groups have been set up within the division with individual chairmen and committees: (1) single room units, Jack O'Brien, Peirce-Phelps, Inc., chairman; (2) residential, H. B. Shaffer, S. S. Fretz, Jr., Inc., chairman; (3) central plant, Joseph A. Call, Williard, Inc., chairman.

Enrollment fee of the residential course is $15 for new applicants or $10 for those who participated in the 1956 course, it was stated.



This model illustrates Molecular Sieve crystal structure magnified millions of times. Uniformly sized pores permit water molecules to enter and be firmly fixed in the adsorption cavity. Larger oil and refrigerant molecules are excluded. This "sieving" effect creates very high capacity, because the entire adsorption surface can be occupied only by water.

Now...SUPER DRYING for REFRIGERANTS

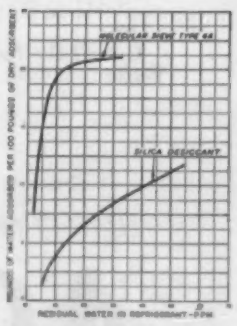
Now you can make refrigeration systems *really* dry! LINDE Molecular Sieves, a new *class* of adsorbents, have many times the drying capacity of common desiccants under *operating conditions*. Example (see chart): 19 weight-percent capacity for drying Refrigerant-12 at 140°F, at residual water level of 10 ppm.

This means that the service life of standard sizes of driers is extended by many times ... or that equipment design improvements can be made through the use of much smaller driers.

Molecular Sieves offer other important advantages:

- Spherical pellets are hard and clean.
- Drying performance is not affected by compressor oils.
- Acids are removed completely by co-adsorption with water.

Samples and performance data can be obtained from our technical representatives. Write today to Dept. A-13, Linde Air Products Company, A Division of Union Carbide and Carbon Corporation, 30 East 42nd Street, New York 17, N.Y.



The term "Linde" is a registered trade-mark of Union Carbide and Carbon Corporation.

Linde TRADE MARK MOLECULAR SIEVES

For more information about products advertised on this page use Information Center, page 31.

'Field Installation Practices and Problems' Conference

The "Field Installation Practices and Problems" conference, held during the recent ASRE national convention in Boston, was the first on this subject to be conducted by the engineering society.

Because this conference on Field Installation Practices developed so much information that is interesting and useful to the man in the field, the NEWS is reporting the discussions at the conference in some detail. (Picture of panel is on page 7.)

Chamberlain Discusses Safety Code Field Problems and Interpretations

In his discussion on "Safety Code Field Problems and Interpretations," J. R. Chamberlain, chief engineer-industrial, York Div., Borg-Warner Corp., pointed out that the ASA B9.1 Safety Code is not a static thing, but rather one that is constantly being "looked at" in terms of modernizing it when time comes for revisions.

Field problems with respect to the code derive primarily from the following: (1) code isn't clear for a particular piece of apparatus; (2) desire on the part of inspectors to read into the code something that doesn't exist, or assume the definitions are not what they are intended to be; (3) progress in manufacture of materials leading to improvements in quality; (4) companies or individuals feeling that what they are doing should be liberalized regardless of safety implications.

Only 10 Inquiries Presented Since '53

The adequacy of the present code is pointed up by the fact that since 1953, there have been 10 inquiries presented to the Interpretations Subcommittee; this contrasts to 75 in the previous three years, Chamberlain said.

Chamberlain related the following as some of the interpretations requested:

The question of what relief protection is required on a water cooler which has water through the shell and refrigerant in the tubes, involves the matter of whether it is a pressure vessel or by definition, pipe and tubing, which requires no relief.

This has been resolved by pointing out that the refrigerant side of this apparatus does not require a relief valve unless the sum of the volumes of the channel caps and tubes per circuit is greater than ½ cu. ft.

In the matter of butt welded pipe, the code has prohibited butt welded pipe larger than 2 in., but it is expected that this will be liberalized, increasing the figure to 4 in. for butt welded pipe, since manufacturing has been approved.

If field test pressures for Refrigerant-13 were established in accordance with the Code, it would make the application of this refrigerant almost impossible, Chamberlain said.

A liberalization is proposed for handling this with limited pressure designs which involve the use of a large volume so that the entire charge can be evaporated into gas upon shutdown, eliminating the necessity for heavy construction other than the necessity of designing for a pressure and setting the relief valve to that pressure. To provide these requirements clearly is the problem.

An example of piping exceeding the limitation of the B9.1 Code related to the quick coupling of remote condensing units to its companion evaporator with factory sealed and charged piping. The question involved was what was field erected on the premises, which limited soft copper tubing to ⅞ in. o.d. The firm wished to go to 1⅛ in. o.d.

The finding in this instance was that that Code would not apply if this particular assembly were installed in single family dwellings. Single family residences are exampled because of the Common Law principle that "man's home is his castle" and one can do whatever he chooses if it will not endanger others.

One of the principal problems in the interpretation of the Code has come in the matter of relief valves. Many local ordinances do not follow the Code and base relief valve sizes on tons of refrigeration and on pipe diameter not capacity.

Chamberlain stated also that the present B9.1 code provisions on relief valves needs some "dressing up." Paragraph 13.2.2 of the Code requires a relief valve in parallel with a rupture member or a second relief valve. This leads to some authorities trying to rule out a single rupture member, or insisting on the literal words.

This requirement was in the 1939 Code and was based on the hope, as Chamberlain put it, that a relief valve never relieves and loses valuable refrigerant. The relief valve thus remains on the line day in and day out exposed to the elements, and maybe it will not work when called upon to operate.

Thus, if there is a bursting disc in parallel with it, set 20% higher, then if the relief valve doesn't go, the bursting disc will let go before extreme or dangerous pressures exist.

The alternate of a second relief valve, said Chamberlain, merely suggests that by means of a dual relief connection, a relief valve can be periodically checked by shutting one off and removing it; however, it must be taken into consideration that the normal condition involves the use of both relief valves open to pressure.

A single bursting disc, if properly engineered, could be installed ahead of the dual connection or in lieu of, which is permitted in Paragraph 13.8.

The question is whether one would like to risk the entire valuable charge of a refrigerating plant to the possible damage or creep of a single bursting disc. Although a relief valve sometimes leaks, the chances are if they blow, it will be known to the operator; not so with a bursting disc.

Much like the movement *of a fine waterproof watch...*

A. O. Smith hermetic motors are quality-built to be

HERMETICALLY sealed inside your compressor, A. O. Smith motors are quality-built to provide a reliable source of power for refrigeration or air conditioning, year-in and year-out. They're custom-built and dynamically-balanced for years of dependable, quiet, vibrationless service. What's more, each motor is manufactured under strict quality control . . . assembled and tested under controlled atmospheric conditions, ever-free of dirt and dust.

A. O. Smith hermetic motors are application-engineered to match your compressor design. They're available in single-phase and polyphase, 1 through 10 hp.

Get all the facts about A. O. Smith hermetic motors. Write today for full details.

Choose from a complete line of A. O. Smith motors:

Single-phase, capacitor-start, induction-type motors — ⅓ through 5 hp.

Polyphase, squirrel-cage, induction-type motors — ⅓ through 150 hp.

Through research A.O. Smith *... a better way*

A.O.Smith
CORPORATION
ELECTRIC MOTOR DIVISION
TIPP CITY, OHIO
INTERNATIONAL DIVISION: MILWAUKEE 1, WISCONSIN

Each hermetic motor is carefully packaged in a heavy fibre-board box . . . all are carefully wrapped in a plastic blanket. Further protection from moisture is obtained by insertion of individual bags of silica jel.

For more information about products advertised on this page use Information Center, page 31.

Gerteis Says Electrical Code Revisions Needed on Hermetic Motor Developments

There is a need for electrical code revisions which will take into consideration new developments in hermetic motors and their protection devices, and there is also probably an area for the improvement of such protection devices.

This was brought out in the discussion of "Hermetic Motor Protection and the National Electric Code," by K. M. Gerteis, manager, Compressor Development Dept., Carrier Corp.

'What Is Full Load Current of Compressor?'

What is the "full load" current of a refrigeration compressor? It is most generally thought of as the current drawn under conditions established as the standard rating point. But this is not the maximum possible running current, Gerteis explained.

Under extreme weather conditions the ampere figure might be as much as 20% higher at rated voltage. If low voltage is coincident with extreme load, and if the motor has the reserve power to continue to operate, the current may rise to 140% or more of the full load figure.

In the selection of motor branch circuit elements—disconnect switch, fuse, the wire, and the motor starter—the "full" or "rated" current marking of the compressor is the basis for choice. A study shows that branch circuit size and motor starters indicate that the items are considered safe for maximum operating currents of 125 to 140% of "full" load values.

"The branch circuit disconnect switch and its associated fuses represent the most peculiar part of the motor protection problem," Gerteis said. "Unlike other branch circuits, the fuses are usually far too large to protect the circuit from "running" overcurrent, and therefore provide only short circuit and ground fault protection.

'Important To Remember'

"This is important to remember in a discussion of the separate overcurrent or inherent device, which while primarily intended to protect the motor from overheating, must also provide branch circuit protection."

When the National Electrical Code was revised to require current rather than hp. markings for hermetic compressors and to make practicable the use of inherent protection, it was also modified to require use of separate over-current devices with trip points not in excess of 115% of the "full" load current marking (a compressor driven by an open 40° C. rise motor could have an overcurrent device set at 125 to 140% of its full load current).

"Since the rest of the branch circuit doesn't know the difference between an open and a hermetic motor, it must be assumed that the intent of this new and restrictive provision in the NEC was based upon a concern about protecting the motor from overheating.

"The inference in this grouping of the hermetic motor with higher temperature rise and totally enclosed motors is that it needed a restricted setting of the protective device to keep it from burning out.

"However, a good look at this would show first, that the 'full' load current marking can be selected after the overcurrent device trip point has been chosen, and thus the degree of protection is not controlled. Also, that no separate overcurrent device, regardless of trip point, provides proper protection of many hermetic motor applications unless supplemented by auxiliary devices such as a thermostat on the motor housing or winding, or a low side pressure switch."

While the 1953 edition of the NEC restricted the ultimate trip value of separate overcurrent devices for hermetics to 115% of full load current, no similar restrictions were provided for inherently protected motors. This has resulted, said Gerteis in the Underwriters' Laboratories being faced with the difficult problem of making sure that the "full" load current markings of inherently protected hermetic compressors are high enough to assure proper sizing of branch circuit components.

Gives Examples Of Faults

To show, by example, the inconsistencies and ambiguities of the present NEC provisions, Gerteis took the case of a self-contained air conditioner in which there was a choice between the use of an open or hermetic motor-compressor, plus a choice between separate overcurrent and inherent protection, and in the case of the separate overcurrent protection, the choice of locating the device in a hot compressor compartment or in a compartment surrounded by air leaving the cooling coil.

The motor chosen will have sufficient capacity to operate at maximum loads with 15% undervoltage. Trip point tolerances, the fixed steps of trip rating of overcurrent devices and other manufacturing tolerances must also be considered in selecting the protective device and the motor so as to avoid unnecessary shutdown of the unit.

In the specific example used by Gerteis, the ASRE and ARI rating point the motor current in every case is 22 amps. At the maximum load it is 26.4 amps with rated voltage, and 30.4 amps with 15% low voltage.

The 40° C. ultimate trip rating of selected separate overcurrent device (of the uncompensated type) could vary between 29.4 and 38.7 depending upon its actual design ambient. Since the overcurrent device trip rating cannot exceed 115% of "full" load current on the hermetic, the compressor "full" load current marking would vary between 25.5 and 33.6 amps, depending upon the actual ambient.

"The absurdity of a 33.6 amp. 'full' load current marking on a unit that draws only 26.4 amps at maximum load with rated voltage is quite evident," Gerteis commented. "But in the case of the open 40° C. rise motor, the nameplate marking could be as low as 22 amps for a 15° F. overcurrent relay ambient and 25.5 amps for a 40° C. ambient.

"For the inherently protected version of the hermetic, the true 'full' load current of 22 amps could be used. Since other branch circuit components are selected on the basis of 'full' load current, the wire size selection would vary from No. 10 to

(Continued on next page)

Here's your key to MORE BUSINESS . . .

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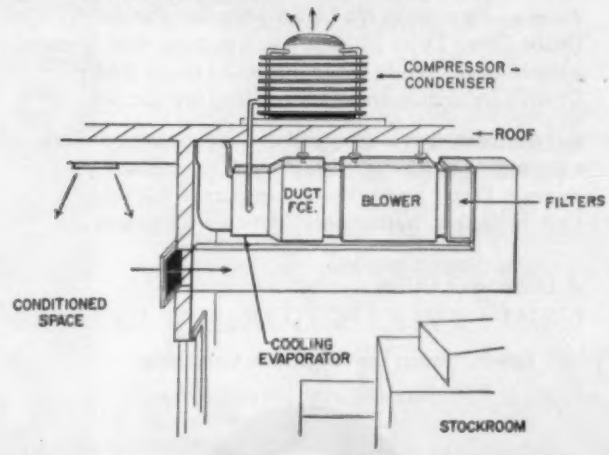
gas-fired DUCT FURNACES

. . . help you sell heating-cooling combination systems by keeping costs down!

TYPICAL COMBINATION SYSTEM



NOTE: All DUCT Furnaces should be installed in accordance with the procedures established by AGA and ASA.

Pull out *all* the stops on competition when you go after heating-cooling combination jobs. Figure the system with Janitrol Gas-fired Duct Furnaces, and you'll be a tough competitor. Janitrol Duct Furnaces are low in cost, require less installation time and labor. They fit right into duct work used for cooling, save space, assure highest heating efficiency. As for *durability*, let this fact be your guide: Janitrol's exclusive armor-coated, corrosion-resistant heat exchanger is *so rugged* that replacements for any cause during the past seven years have run less than ¼ of 1%! That's *proof* of real quality!

Janitrol Duct Furnaces are easily added to existing cooling systems, too—with BIG savings. Another source of profitable new business for you. Write us today for Bulletin DF-53 giving complete specifications and performance data on the six sizes of Janitrol Duct Furnaces. Address Department AC-71.

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HEATING AND AIR-CONDITIONING DIVISION

Surface Combustion Corporation, Columbus 16, Ohio
In Canada: Moffats, Ltd, Toronto 15

Electrical Code Revisions--

(Continued from preceding page)

No. 6 AWG, and the motor contractor or starter selection would vary between a 30 and 50 amp size.

"It is quite obviously wrong to have the 'full' load current marking of otherwise identical units vary with the type of motor, protection, and application of the protector, when the actual currents are the same," said Gerteis. "It is equally wrong for wire and starter size to vary widely for the same same current load.

ARI Requests Amendment

"The ARI has requested amendment of the NEC to permit selection of separate over-current devices for hermetic motors on the same basis as open 40° C. rise motors. More recently Underwriters' Laboratories has prepared new test standards to bring the 'full' load current markings of units using inherently protected hermetic compressors in line with 40° C. rise motors."

The Carrier engineer said that while adoption of these proposals will tend to correct to some degree the present inconsistencies, further revisions are desirable.

"Many of you would agree that the ideal form of motor protection would be a purely temperature sensitive device with essentially instantaneous response to motor winding temperature," he declared. "This would be the ultimate inherent protection, with no current sensitivity whatever.

"But, with such a device how would you set the 'full' load current and size the branch circuit components? This takes us back to the basic difficulty which is the fact that the motor protector rather than the fuses provide branch circuit over-current protection.

"This is based on the traditional use of fuses which are sized up to 400% of 'full' load motor current to avoid their blowing during the motor starting period.

"Present day positive displacement refrigeration compressors have low ratios of starting to running current and little starting inertia. They will accelerate to running speed in as little time as one-sixth of a second. Time delay fuses, even when sized down to the maximum running current, are actually unnecessarily slow.

'Should Provide Branch Circuit Sizing Current'

"Thus, we believe that an additional nameplate marking should be provided that would properly be called the 'branch circuit sizing current.' This figure would be selected so that a time delay fuse of 125 to 140% of its value could be used and yet have the motor protector trip rather than the fuse blow except under abnormal circumstances.

"Mandatory use of fuses of this size would provide the basis for much improved protection of the hermetic motor. The 'branch circuit sizing current' would also be used, rather than 'full' load current, to select all other branch circuit components, this would permit the 'full' load current to remain a stable, meaningful term, defining the operating current of the unit under standard ARI and ASRE rating conditions."

Drogosch Discussed Field Inspection Problems, Public Official's Duties

Introduced as "a widely respected public official who administers one of the best municipal safety codes in the entire country," F. J. Drogosch, chief safety engineer, Department of Buildings & Safety Engineering, City of Detroit, discussed the problems of field inspection of air conditioning and refrigeration systems.

Depending on the way in which a particular safety code is written, the public official charged with administration of the code and field inspection may have the following duties:

1. Licensing of contractors.
2. Issuing of permits for new installations and alterations.
3. Initial and periodic inspection of the systems covered.
4. Issuance of permits and licensing.
5. Policing of installation requirements.
6. Reporting and studying accidents.
7. Rulings relative to the code, and appeals thereon.
8. Administration of penalties.

'Installer Usually Violates Code from Lack of Information'

"An installing contractor who violates a code most often does so because he hasn't informed himself of the code provisions in advance," Drogosch declared. "The contractor will minimize his problems by informing himself of all of the facts relating to the regulations governing the installation."

Problems

Problems of the field inspector may generally be lumped under two categories,

1. Personal. This involves primarily misinterpretations on the part of the manufacturer, installer, user, and even on occasion, the enforcing authority. "When there is any question, discuss it with the proper authorities prior to doing anything on the job," Drogosch advised.

2. Material. Main thing involved with materials is the acceptance of equipment to be installed, and the completed installation itself. In this the proper marking of equipment and components for the purposes of identification, and accessibility to all parts of the system, are important items.

The B9.1 code specifies that condensing units be readily accessible for inspection, Drogosch said. Packaged equipment and the desire for a more compact package are presenting problems to the field inspector. Covers to the condensing unit compartments are getting more difficult to remove, Drogosch said.

Expresses Opinion

He advanced the thought that the information for something such as a pressure relief device might be put on a metal tag which could be fastened to the unit assembly in some accessible spot. Pressure vessels should be installed in such a manner that the information as to safety limits can be readily read.

SILENCE

IS

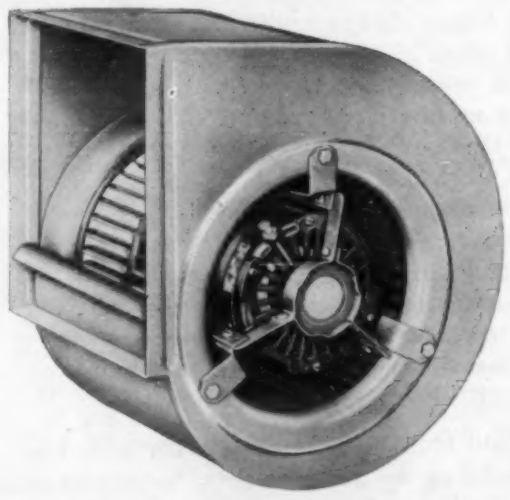
GOLDEN

But perhaps you've heard about it! These days, it's difficult to keep a good thing quiet, unless of course the good thing happens to be Utility's Direct Drive Blower. This silent partner of maximum airflow is equipped with Neoprene hubs which isolate motor noise and vibration. Adaptable to the manufacture of heating, cooling, refrigeration and ventilating equipment, Direct Drive Blowers are designed by Utility engineers to keep things quiet, to make this equipment easier to sell to your customers.

Why not whisper this interesting news to your suppliers. If they'll listen to reason — and that's about the only thing they'll hear with Utility's Direct Drive Blower — you'll easily sell them on the money-making idea that silence is golden — for them and for you.

There's a lot more to the Utility story that also doesn't meet the ear. Utility Direct Drive Blowers take less space, have no unnecessary accessories and can be speed controlled easily. And while Utility's techniques are advanced, costs are not.

Get the maximum sales appeal of silent operation in the equipment you handle. Always check to see that Utility's no-noise Direct Drive Blowers are part of this equipment. Cash in on this "hush-money" with every unit you sell.



A Division of Utility Appliance Corp.

UTILITY FAN CORPORATION

911 East 59 Street, Los Angeles 1, California

you can't match UTILITY *for product and price*

Manufacturers of heavy and standard duty blowers for heating, air conditioning and ventilating installations. Producers of blowers and blower parts for original equipment manufacturers. Write for catalogue data.

For more information about products advertised on this page use Information Center, page 31.

SPEAKERS at the recent Boston ASRE "Field Installation Practices and Problems Conference" included K. M. Gerteis, of Carrier Corp.; J. R. Chamberlain, of York Div., Borg-Warner Corp., ASA B9.1 Interpretations Sub-Committee; W. G. Henderson, Travelers Compensation and Liability Indemnity Co.; Chairman H. G. Strong, executive secretary, Refrigeration Industry Safety Advisory Committee; F. J. Drogosch, chief safety engineer, Department of Buildings & Safety Engineering, City of Detroit; Austin Ford, Jarvis Engineering Co.; and J. M. Turnbull, power consultant, Western Massachusetts Electric Co.

Turnbull Explains Field Problems From Viewpoint of Power Company

Discussing "Field Problems from the Power Company Viewpoint," J. M. Turnbull, Power Consultant for the Western Massachusetts Electric Co., made these points:

A power company cannot concern itself solely with a particular installation or customer—it has many considerations to take primarily because its relationships with its customers is a long-term thing. For example, if a particular user's problems causes problems for his neighbor, it is quite likely that the power company will have to be dealing with the neighbor long after the particular job involved has gone out of the picture.

Tracing Troubles

Where refrigeration and air conditioning jobs go wrong on the "electrical side" the trouble usually can be traced to the installing contractor's failure to:

1. Obtain complete data on the type of power available and the electrical characteristics of the system he is installing.

2. Understand the power company's rules and requirements. Power company rules and regulations will vary according to the locality, size of equipment which is to be electric driven, and the usage of other customers on the line.

One of the first things an installing contractor should determine is whether the line is a power and electric light line, or a power line only.

'Don't Add Unneeded Starting Devices'

Don't add any starting devices that are not needed, he said, since from the power company standpoint one inrush of starting current is more desirable than a setup which causes more than one voltage disturbance on the line.

The contractor will also run into less trouble with power lines if he can provide a sequence of system starting with a series of small motors, rather than with a couple of large ones.

If there is any X-ray equipment on the line, it will not stand even the ordinarily accepted voltage fluctuations.

The contractor must know what his equipment will do in terms of electrical characteristics.

For example, single-phase motors that may operate fine on 230-volt current may run into trouble on 208-volt lines.

Conditioned Alleys

CINCINNATI — Construction has commenced on the Madison Bown which will have 32 alleys and complete facilities for league bowling. The building will be completely air conditioned. J. E. Warm Co. is engineer and builder for the project.

Henderson Offers Tips On Insurance, Damage Claims and 'Defined Accident'

Some valuable tips for contractors who may get involved in insurance of, and damage claims on, equipment which they may install, were offered by W. G. Henderson, superintendent, Engineering & Loss Control Div., Travelers Compensation & Liability Indemnity Co.

Refrigeration equipment in a commercial establishment may be insured under ordinary fire insurance policies by special endorsement—the method varying by locality, he said.

However, generally a boiler and machinery policy written by an indemnity company provides proper and adequate insurance coverage on a cooling system.

But what is covered?

1. A boiler and machinery policy will cover direct damage to the "piping part" of the system, and offer possibly some "contamination protection."

2. However, for the "machinery end" of the system to be covered, a special endorsement may be needed. "Read the fine print in the policy," he advised.

3. Indirect coverage, covers spoilage resulting from breakdown of the system—this too generally by special endorsement (and this is different from contamination protection).

4. Loss of use of the establishment or its services—this can be covered, but only if specified.

Damage on which insurance claims may be paid have to come under the heading of a "defined accident."

In the category of a "defined accident" are tearing asunder, collapse, bulging, breaking of the machinery into two or more parts, the burning out or deforming of parts.

One of the moot points is whether "cracking" can be considered as a "bursting asunder," he added.

Caused by Poor Use, Faulty Maintenance

More than 60% of accidents to refrigeration systems investigated for damage claims are caused by improper application and faulty maintenance, Henderson stated. Very few major accidents can be traced to faulty design or manufactured construction.

Causes of accidents are through unprotected piping, improperly supported coils, vibration effect, freezing of condensers, pitting of brine piping, improper defrosting, compressor valve, and bearing failure, he explained.

FRIGIDAIRE

Summer-Winter Air Conditioners

COMMERCIAL - RESIDENTIAL

SELF-CONTAINED AIR CONDITIONERS (STORE TYPE)

SELF-CONTAINED AIR CONDITIONERS (ADD-ON TYPE)

SELF-CONTAINED YEAR-ROUND CONDITIONERS

REMOTE TYPE AIR CONDITIONERS

AIR FLOW COOLING COILS

CONDENSING UNITS AND CONDENSERS

ROOM CONDITIONERS

GAS & OIL FURNACES

Get ready now...
Get going NOW...
with FRIGIDAIRE

Add up what Frigidaire can mean to you *now*—and in the boom season just ahead. The combined prestige and appeal of the FRIGIDAIRE name and reputation...

PLUS Frigidaire standards of quality throughout one of the world's most complete lines of summer-winter air conditioning equipment for both the commercial and residential markets...

PLUS Frigidaire promotion—at the national level—and with power-packed local campaigns and promotions in your own market...

PLUS the nation-wide network of Frigidaire Distributors, with one nearby to bring you products, counsel, sales help, training, and service "on the double."

Get ready *now*... get GOING now! For full facts phone your nearest Frigidaire Distributor or mail the coupon at once.

FRIGIDAIRE DIVISION AR-17
General Motors Corporation
Dayton 1, Ohio

Please furnish me complete information and 20-page catalog covering the complete 1957 line of Frigidaire Summer-Winter Air Conditioners for Commercial and Residential markets.

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COMPANY _____

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CITY _____ STATE _____

Packaged Air Conditioner Distributor Grows by Selling Only To Dealers, Aiding Dealer Sales, Offering Price Protection

By George M. Hanning

NEW YORK CITY — How does an organization get to be the biggest packaged air conditioning distributor in the biggest and probably most competitive market in the world?

Officials at Apparatus Distributors, Inc., in Brooklyn, feel confident that they hold that position. They also believe they know how they reached it.

Of course, no one can prove that Apparatus Distributors is really the biggest distributor in the area. But, the company can cite some convincing figures.

Seeks Only Commercial, Industrial Market

Apparatus Distributors handles only the General Electric packaged air conditioner line and only goes after the commercial and industrial market—no residential.

Fact: The company has dealers who sold more than 100 units each last year.

Fact: Within three weeks of introducing its 1957 line, the company took orders for 1,790 units from its dealers.

Fact: It has placed an order for $1,500,000 worth of packaged air conditioners with General Electric's commercial and industrial air conditioning department for delivery before Jan. 1. Most of this order is already sold to dealers.

Manuel Kern, general sales manager, and Stan Fried, advertising and sales promotion manager of the company, also claim that Apparatus Distributors captured 30% of the New York City market last year.

How does this five-year-old organization get that way?

Kern and Fried can cite several reasons—company policies, if you will—for their rapid climb to the top.

Believes 3 Reasons Produced Results

No. 1 reason, according to Kern, is that Apparatus Distributors sells only at wholesale—never at retail. It sells its units exclusively through dealers.

That policy by itself has been enough to win dealer confidence and loyalty and to encourage dealers to go out after business. Turnover in dealers has been less than 5% a year, Kern declared.

SIGNING an order for $1.5 million worth of G-E packaged air conditioners for fall delivery is Louis Lidsky (seated), president of Apparatus Distributors, Inc. Standing l. to r. are Bert Natkin, Manny Kern, H. N. McMenimen, and G. K. Iwashita.

No. 2 reason is that Apparatus salesmen, after they have closed an order with a dealer, then set to work to help him sell the equipment he has purchased. Having nothing else to sell but General Electric packaged air conditioners, they work at the job all year around.

No. 3 reason is that dealers buy at very competitive prices, get complete price protection from the distributor, and receive assistance in financing their purchases and sales.

Not only that, but the dealer does not have to worry about carry-over inventory. Apparatus Distributors buys back any inventory he still may have in September.

In addition, dealers need not stock a large inventory. Apparatus Distributors has three warehouses — two in Brooklyn and one in northern New Jersey—and fast trucking service. The distributor will hold equipment purchased by the dealer and ship it to him as needed.

'Try To Keep Dealer's Problems at Minimum'

"We try to keep the dealer's problems down to a point where all he has to do is sell," Kern declared. "As a result we have a group of dealers who are merchandising minded to a high degree."

No. 4 reason is that Apparatus Distributors does more advertising than any other air conditioning distributor serving the market, Fried claims.

No. 5 reason is that Apparatus Distributors has scouted up new retail salesmen, trained them, and placed them with its dealers.

The trainees were taught the benefits of air conditioning, the features of General Electric air conditioning, how to figure a job, a sales pitch for commercial prospects, and how to close sales.

Out of 200 trainees, some 80 odd showed sufficient interest and aptitude to want to continue. These fledglings were interviewed by interested dealers and hired by them.

Kern said that the company plans to conduct another such school this winter.

Apparatus Distributors was formed by Louis Lidsky, its president. Lidsky is also president of the L. & P. Electric Co., a separate organization that distributes Fedders room air conditioners.

When Lidsky formed Apparatus Distributors, Kern said, he gave up a thriving 37-year-old electrical contracting business. He did this both because of his faith in the air conditioning business and also to prove to dealers that he was completely out of the retail business. They need fear no competition from him. Now he plans to build a 90,000-sq. ft. plant in Maspeth, Queens.

Refrigeration Contractor Basis of Organization

When Apparatus Distributors set out to build a dealer organization, Kern related, it laid its foundation on the refrigeration contractor. The core of the organization is still the refrigeration contractor.

"We believe that the commercial air conditioning business is a specialty business," Kern said,

(Continued on next page)

Sealing up comfort . . . 20 stories high

From the basement depths to the 20th-floor penthouse, this spiral duct work soars up through the Warwick Hotel in Philadelphia.

In making the installation, a prominent air-conditioning company had to be certain that the lengths of duct could be perfectly joined, for—if any air escaped—heating and cooling efficiency would be considerably reduced. And, of course, the seal could not be affected by summer "cold" or winter heat. 3M solved the problem with EC-750.

This 3M adhesive provides a permanent, sure seal around the seams that prevents air from escaping, regardless of temperature variation within the duct. With EC-750, air-conditioned comfort can be put where you want it—20 stories high or a block wide.

See what adhesives can do for you... Perhaps you have a design or production problem that can be solved with 3M adhesives. A 3M field engineer will be glad to assist you. Call today . . . or write for free booklet to 3M, Department 131, 417 Piquette Avenue, Detroit 2, Michigan.

PRODUCT OF 3M COMPANY RESEARCH

ADHESIVES AND COATINGS DIVISION **MINNESOTA MINING AND MANUFACTURING COMPANY**

417 PIQUETTE AVE., DETROIT 2, MICH. • GENERAL SALES OFFICES: ST. PAUL 6, MINN. • EXPORT: 99 PARK AVE., N.Y. 16, N.Y. • CANADA: P.O. BOX 757, LONDON, ONT.

MAKERS OF "SCOTCH" BRAND PRESSURE-SENSITIVE ADHESIVE TAPES • "SCOTCH" BRAND SOUND-RECORDING TAPE • "SCOTCHLITE" BRAND REFLECTIVE SHEETINGS • "3M" ABRASIVE PAPER AND CLOTH • "3M" ADHESIVES AND COATINGS • "3M" ROOFING GRANULES • "3M" CHEMICALS

For more information about products advertised on this page use Information Center, page 31.

Packaged Unit Wholesaler Grows--

(Continued from preceding page)

"and we have built our strength around dealers who understand specialty selling. We don't sell through appliance stores.

"Our dealers who haven't been refrigeration contractors are drawn from the ranks of heating dealers and from those organizations who a few years ago specialized in selling room coolers. When that business got to be an 'over-the-counter' operation, they began looking for some other specialty product to sell.

"By selling strictly through contractors, we assure the customer a better installation and also help maintain the price structure. In brief, we have a better class of dealer."

Up to now, Apparatus Distributors has been concentrating on building its dealer organization. Now the company feels that it has adequate coverage of its market. In fact the number of dealers is declining slightly—without any loss in coverage, Kern hastens to add.

Shifts Emphasis to Dealer Improvement

The emphasis is currently shifting to dealer improvement, he said. The company is concentrating on making its present dealers better dealers by building up their sales from a few units per year to 100 or more units per year.

The company is doing this, Kern emphasized, by providing every possible assistance to the dealer.

It provides him a good selling climate through easy financing for his inventory, storage of that inventory in the distributor's warehouses, low prices that make him competitive even on large jobs, complete price protection, and an abundance of consumer advertising.

At this time of the year, Apparatus Distributors' own six salesmen are out getting orders for equipment. But once that task is completed, they spend their time helping the dealer sell.

Visit Dealer Twice Weekly

They see each dealer at least twice a week. They help him plan his own promotions. They go with him to help close special jobs. They work with new salesmen and help train them. They help the dealer to arrange financing on his sales. They check to see that leads given the dealer are followed up.

In a word, they "keep on the dealer's back" to see that he does not slacken his efforts and realizes the most out of his territory.

In addition to assistance from the salesmen, dealers also have available the services of a field supervisor who helps with installation and service problems and a graduate engineer who assists them in handling any type of installation.

And they have the backing of Apparatus Distributors' voluminous advertising program.

Use Direct Mail, Newspaper Advertising

While direct mail has proved to be the most fruitful field for advertising, Fried has always leaned on newspaper advertising, too. He claims to do five times as much newspaper advertising as all competitors combined.

Fried explained that he relies heavily on newspapers to build up recognition and acceptance of G-E air conditioning with the general public, giving dealers added stature in the eyes of their prospects.

Fried noted that his newspaper advertisements always carry a coupon. When these coupons come in, they are distributed to the dealer in whose territory the prospect lives or to the dealer whom the salesman thinks will be best able to handle the call.

In direct mail advertising, mailings are sent out for each dealer each year at no expense to him.

"At the beginning of the sales year—in October—when the dealers place their initial orders, we give them a mailing program along with their order.

"These mailing — generally factory prepared pieces though some pieces are prepared by us —are mailed out in October, November, January, March, April, and May.

"We start our mailings in the fall for two reasons, Fried continued. "One is that we believe that selling air conditioning is a year-round business and should be promoted year around.

"The other is to counteract a natural tendency for a dealer to relax after placing his order in the fall. He figures that he doesn't have to start selling right away.

"But when the leads from the first mailing start coming in—his name and address are on the reply cards—he begins to think that there is something to selling air conditioning year around. Then he goes out and makes calls," Fried further commented.

'Attacks' Specialized Markets for Cooling

In addition to these general mailings, Fried also uses direct mail to attack specialized markets. For instance, he has sent out mailings to all churches and synagogues, to all printing establishments, and to industrial plants.

Each included a factory prepared brochure aimed at that particular market, a covering letter from the distributor, and a reply card.

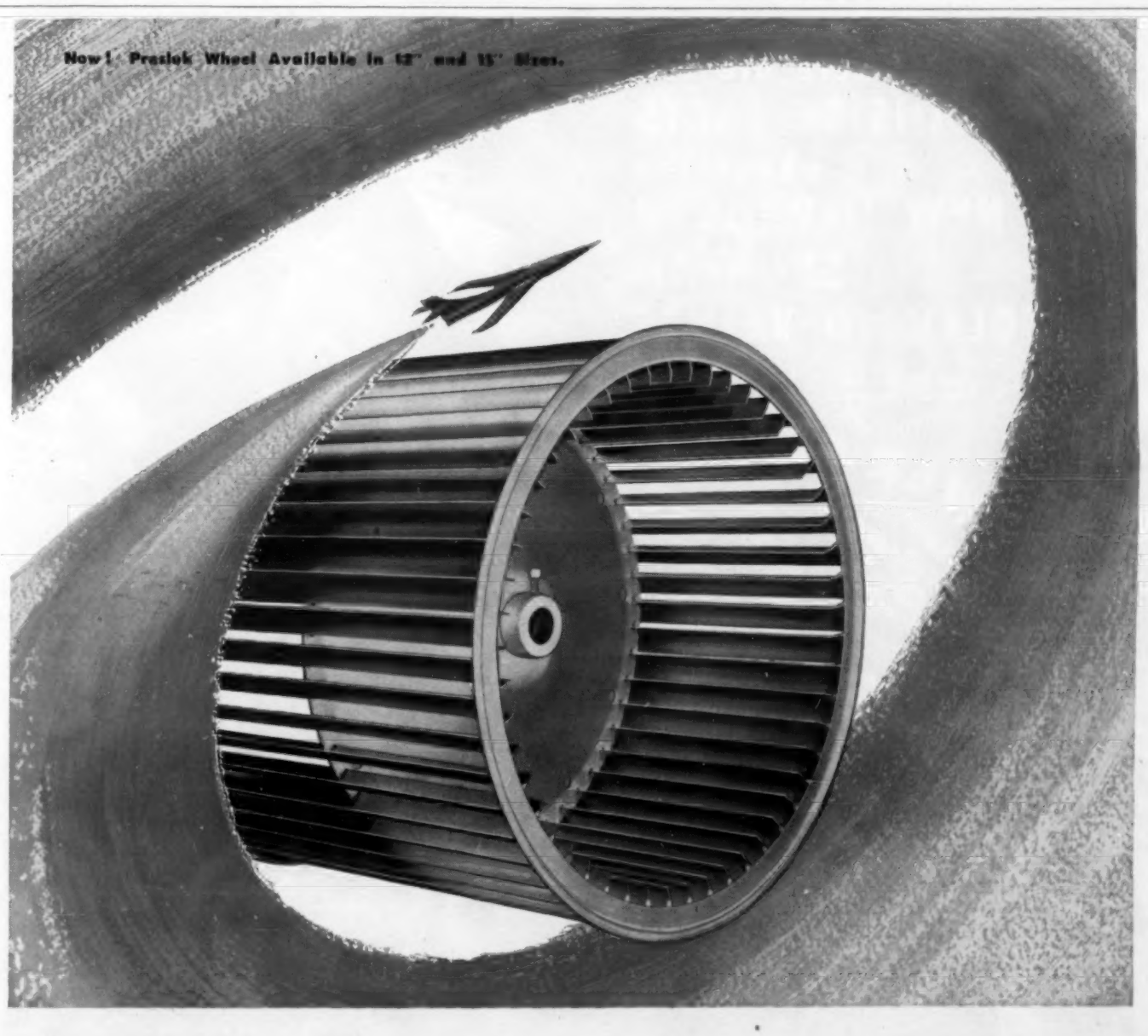
As an example of the type of appeal used, here is the letter than went to the synagogues:

"There is no need to discuss with you the seasonal variation in synagogue attendance. You know, all too well, how much summer weather cuts down the size of your congregations.

(Concluded on next page)

BUSINESSMEN: BIG SAVINGS IF YOU BUY NOW!
General Electric Air Conditioners
for stores, offices, factories
PRICE RISE COMING FIRST OF YEAR!
INSTALL NOW—AND SAVE
AND you need not start payments until next May
EASIEST TERMS EVER!
UP TO 36 MONTHS TO PAY
BUY NOW—PAY IN MAY!
UP TO 10 YEARS TO PAY ON LARGE INSTALLATIONS
For FREE Survey and Estimate Phone: In New York ULster 2-4000
—or MAIL THIS COUPON!

EXAMPLE of newspaper ad used by Apparatus Distributors, Inc. to build up recognition and acceptance of G-E air conditioning with public.



GIVE YOURSELF A SPEED 'MARGIN OF SAFETY'

Specify Preslok® Wheel . . . Guarantees 50% More Operating Speed

LAU®

Are your modern air conditioning requirements calling for greater speeds, higher statics? *Preslok is guaranteed to increase your operating speed maximums by at least 50%!*

With Preslok, the center disc grips the blade mechanically by an exclusive Lau locking method. Four disc fingers slip into the blade aperture and are pressed together in locking position. *Preslok eliminates ballooning at higher speeds . . . insures a quiet operation.*

One more advance for Lau engineering. One more answer to the needs of original equipment manufacturers, made possible by superior Lau engineering and production skills.

Perhaps your organization is confronted with a difficult air-moving problem right now. If so, why don't you call in Lau, who have pioneered so many advances in more than 25 years of service. Write Dept. M, today.

See Us February 25 to March 1 at Booth 836, International Air Conditioning Exposition, Chicago, sponsored by ASH&AE.

1-57

THE LAU BLOWER COMPANY
2007 Home Avenue, Dayton 7, Ohio
Azusa, California. In Canada: The Lau Blower Company of Canada, Ltd., Kitchener, Ontario

World's Largest Manufacturer of Air-Conditioning Blowers

Packaged Unit Distributor Operation--

(Concluded from preceding page)

"Now something can be done about it.

"Air conditioning with G.E. equipment will help you narrow the gap between summer and winter attendance. You'll find, too, that with windows closed, dust and dirt will be shut out, as well as distracting street noises. Your synagogue cleaning and redecorating problems will be reduced.

"G.E. air conditioning is available in packaged units of various sizes. These may be used singularly or in any number of combinations.

"Modern G.E. packaged air conditioning is simple to install, no elaborate ducts or piping is needed. The cost is reasonable. The benefits are great.

"We realize that air conditioning represents a capital outlay which cannot be normally taken out of an annual budget. For this reason, we have developed a fund-raising program especially planned to meet the needs of synagogues.

"For complete details of this plan, simply fill in the enclosed business reply card without any obligation on your part."

These letters were signed by General Sales Manager Kern. When replies were received, they were turned over to the appropriate dealers.

In addition to general and special mailings, dealers are encouraged to promote on their own through a cooperative advertising program, with the distributor sharing in the cost.

"While every effort is made to assist the dealer," Kern pointed out, "there is no pressure put on him to sell our equipment. We do not set any quotas for dealers to meet, we don't try to sell him more equipment than he is capable of moving, and we don't pressure him into promotions. Having made it easy for him to sell, we don't have to."

Aid to Dealers Helps Them Get Big Jobs

With such assistance from the distributor, the company's dealers have gone after many big jobs and have landed them.

One dealer is currently installing 1,500 tons of packaged units in the McGraw Hill building in Manhattan, which Kern believes is the largest packaged unit job in the city.

Another dealer has put 100 tons of air conditioning in the restaurant, bar, and clubhouse of Yankee Stadium. Another put 200 tons of air conditioning in the Statler hotel.

Other Apparatus Distributor dealers have sold equipment to the Prudential Insurance Co., the Bell Telephone Co., and Consolidated Edison Co.

Thirty dealers have shared in air conditioning 66 out of 95 A & P supermarkets opened in this area last year, with more orders still coming in from the national chain.

Competitive pricing, a guarantee as strong as a factory guarantee, and good installation practices have won these A & P orders against competition direct from other manufacturers and distributors, Kern said.

Apparatus Distributors dealers have conditioned 23 out of 32 stores in the new Plainview Shopping Center on Long Island and all 14 stores in a shopping center at Pompton Lakes, N. J.

A final key to Apparatus Distributors' success, Fried believes, is that the company has taken pains to find out just what and where its market is.

To get this information, Fried last winter hired a group of six college students to conduct a store-by-store survey of 36,000 stores in New York City. They worked for four months during their after-school hours on the project.

Moving quickly from store to store, they jotted down the name and address of the store, the type of store, whether or not it was air conditioned, whether or not the owner was a prospect, and any appropriate comments.

"We gained a tremendous amount of information from this simple survey, Fried commented. "Of primary importance was the uncovering of 'hot' prospects who indicated that they were thinking of buying air conditioning. These names were turned over to dealers for immediate followup.

"Then there was a list of interested prospects, those who were thinking of air conditioning, but not immediately. These were added to our mailing lists.

"We also learned what the saturation was in each area and what types of stores had bought air conditioning and what types were interested. From this we learned our strength and weaknesses in each area.

"From this data, we could tell where we might need new dealers and where present dealers could profitably increase their efforts. Having this data also helped us to get the new dealers we needed, then we could point out to them the potentialities of their territory."

here are the
INSIDE FACTS
about the
NEW IMPROVED
SPORLAN
SOLENOID VALVES
with the
POWER PACKED
Blue Seal
COIL
SPORLAN
Sporlan
BLUE SEAL COILS
give
PEAK PERFORMANCE
because
1 Extra winding provides reserve protection against burn out.
2 Layer wound magnet wire, plus cotton thread spacing affords maximum insulation.
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4 Final protective Blue Seal dip and bake assures moisture-proof seal.
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SPORLAN ENGINEERING FEATURES INCLUDE:
Extremely simple design — Few Parts... Sturdy — Take apart construction... Floating type stem and plunger assembly... Tight Closing — Pin and seat polished to a super finish... All large capacity pilot piston operated solenoid valves are equally applicable to both Freon-12 and Freon-22... Tighter closing is assured — New synthetic seating now available in Types - 43 - 53 and 73... Interchangeability of Coils — One size Blue Seal Coil fits 5 different type valves... All sweat type connection valves are now delivered hand tight — saves valuable time in removing internal parts before applying valves to the system... A new universal mounting bracket for all Sporlan Solenoid Valves.
For Peak Performance on all installations... buy Sporlan Solenoid Valves with the New Power Packed Blue Seal Coil... better still, Buy Sporlan Right Down the Line!
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7525 SUSSEX AVENUE ST. LOUIS 17, MO.
EXPORT DEPARTMENT: 89 BROAD STREET, NEW YORK 4, N. Y.

Wolverine Names Crowe Industrial Sales Mgr., Ups 4 Others In Sales

DETROIT—Five appointments were recently announced by Wolverine Tube Div. of Calumet & Hecla, Inc.

R. C. Crowe

E. W. Ervasti

Rod T. Davies

Jack Sheehan

Robert C. Crowe has been named manager of industrial sales, succeeding E. W. Ervasti who became general sales manager of Calumet & Hecla of Canada, Ltd., according to John M. Dumser, director of sales. Crowe has been sales representative in Detroit.

Rod T. Davies has been promoted to the newly-established post of manager of aluminum sales here.

Jack Sheehan was appointed manager of wholesale sales, replacing A. S. Kingerley, who was named assistant district sales manager of Wolverine's east-central district.

C. A. Johnson was named sales representative in the Detroit area, succeeding Crowe in the changeover.

For more information about products advertised on this page use Information Center, page 31.

Barber-Colman Describes Air Turning Device

——KEY NO. S-120——

ROCKFORD, Ill.—A new catalog covering the "Uni-Flo Airturn" was recently released by Barber-Colman Co. here.

A factory-fabricated, "ready-to-install" air turning device, the Uni-Flo Airturn is designed to give sweeping radius performance to the square duct corner, the company said.

In addition to describing and illustrating this device, catalog F 7912 includes pressure loss data which permits engineers to determine the true elbow losses throughout the air distribution system. It also includes sizing and ordering information.

Catalog Covers Motor Controls

——KEY NO. S-121——

MILWAUKEE — The seventh edition of the Allen-Bradley Co. handy catalog was recently released. It contains 132 pages of operational, dimensional, and price data on Allen-Bradley manual and automatic motor controls.

It is an easy-to-use guide, conveniently indexed for quick reference, in the selection of motor starters and control accessories for every type of service.

Many types of enclosures which are available for operation in damp, hazardous dust, and gas locations are discussed and illustrated.

D-H Details Latest Evaporative Condenser

——KEY NO. S-122——

LOS ANGELES—A new sales and engineering leaflet describing the firm's latest model evaporative condenser was issued here recently by Drayer-Hanson, Inc.

Important sales and engineering features cited concerning "Perma-Fan" include elimination of need for corner seals, as end panels are formed in one piece to extend around corners, direct drive pump factory mounted and piped, leak proof access doors, and junction boxes put in for fan and pump motors, the firm said.

A section of the literature is devoted to selection methods. These charts, designated "Selec-Tables" and "Corec-Tables," are said to simplify selection process. Complete dimensional drawings are keyed to the Table of Dimension graph in CR 56110.

Binks Bulletins Cooling Towers

——KEY NO. S-123——

CHICAGO — Twenty-four sizes of quiet-operating cooling towers for business and industry are described in the new 12-page bulletin 477-A offered by Binks Mfg. Co. here.

The illustrated booklet explains that the "whisper-quiet performance" of the fans is due to tip speeds under 2,300 f.p.m. Squirrel cage blower, motor, and drives are located in the dry air stream. No moisture laden air penetrates this vital mechanical equipment in the cooling tower, it is stated.

Dimensions and approximate weights are given for each of the 24 cooling towers which range from 5 to 360 tons of refrigeration. Selection tables for a wide range of design wet-bulb conditions are also included.

General specifications point out the construction features of the units emphasizing the hot-dipped galvanized blowers and the tower casings of mill galvanized steel. A special section in the new booklet is devoted to installation contractor problems. A typical hot and cold tank system for multiple equipment cooling applications is shown in diagram form.

Publication Outlines Shaded-Pole Motors

——KEY NO. S-124——

SCHENECTADY, N. Y.—GEA-6134A, a 12-page bulletin, describes General Electric's shaded-pole motors for fan and blower applications in ratings of 1.5 w. through ¼ hp.

The two-color publication contains application, rating, and dimension data on 5½-in. (39-frame) motor rated 1/12 through ¼ hp., 5-in. (21-frame) motor rated 25 m.hp. through 1/12 hp., 4-in. (11-frame) motor rated 15 through 35 m.hp., and 3½-in. (51-frame) motor rated 1.5 through 16 w. In addition, product features and lists of accessories are available.

Steinen Offers New 'Nozzle Guide'

——KEY NO. S-125——

NEWARK, N. J.—Wm. Steinen Mfg. Co. recently released a new edition of its "Nozzle Guide," a booklet directed to the serviceman as an aid to more accurate and detailed information as to the type of nozzle to be used on the various oil burners he services.

Almost 200 firms supplied information for the booklet, the company said. Full information is given relating to type and nozzle angle recommended for nearly every model of burner boiler and furnace unit. The booklet costs $1.

Booklet Illustrates Air-Mixing Units

——KEY NO. S-126——

NEW YORK CITY — Distribution of a four-page pamphlet illustrating the new air-mixing units for use in dual-duct air conditioning systems has been started by Buensod-Stacey, Inc.

The booklet, designated "Bulletin DD-3," is being circulated by the newly-appointed distributors of Buensod equipment throughout the United States, as well as through the main office of the firm.

Text matter and photographs included in the bulletin describes "V3" and "Type H" model mixing units, as well as "VD Air Distribution Header."

'Engineering Formulas & Tables' Introduced

——KEY NO. S-127——

PHILADELPHIA — Civil, mechanical, and electrical engineers will find "Engineering Formulas & Tables" an "indispensable tool," according to the publisher, Lefax Publishers.

The book contains 35 pages of basic formulas, design data, and tables for the three branches of engineering. Condensed, indexed, and mathematically accurate, states the publisher, the book has 12 division sheets.

Sections include mathematics, measures, materials, gauges, screws, mechanics, electricity and magnetism, hydraulics, structural data, reinforced concrete, pipe and fittings, steam tables, and mathematical tables. It sells for $2.75.

Catalog Ammonia Units For Hot-Gas Defrost

——KEY NO. S-128——

LOS ANGELES—Recold Corp. recently released catalog 13C6a on its ammonia unit with hot-gas defrost pan for use in hot-gas defrost systems.

Included in the catalog is a graphic illustration of the product along with dimensions and specifications for ammonia direct expansion with defrost pan and ammonia flooded with defrost pan.

Bulletin Describes Gas Pilot Development

——KEY NO. S-129——

LONG BEACH, Calif. — A bulletin describing a new gas pilot development called the "Mini-Pilot 200" for space heaters, water heaters, and other larger home appliances is available from Robertshaw-Fulton Controls Co., Grayson Controls Div.

Mini-Pilot 200 is a universal pilot for all gases. It is said to have a high millivoltage output for efficient operation with safety shut-off devices. It is non-aerated as insurance against pilot failures due to linting.

Bulletin GS-92 provides information concerning the operation and installation of the miniature pilot.

Here it is...!

THE NEW "48-FRAME" MOTOR DESIGN THAT GIVES YOU Century INDUSTRIAL QUALITY

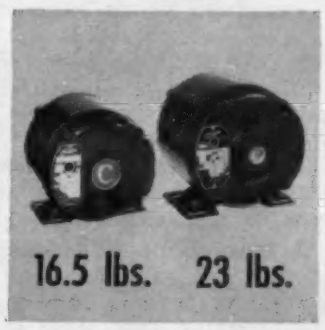
Everything you asked for and more. Smaller, yes... and better, too. Here is traditional Century dependability, smooth-running and quietness under load... now skillfully engineered into the compact new "48-Frame" design.

These great new Century "Industrial Quality" motors are now available in sizes from 1/20 to 1/3 H.P.... developed specially for industrial users.

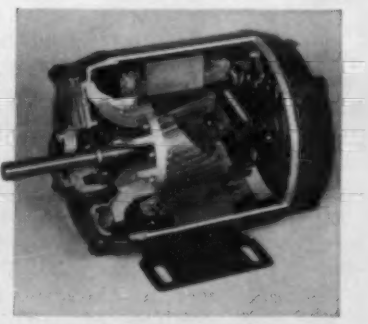
ON NEW EQUIPMENT OR FOR REPLACEMENT... when you see the red "C" on the new weight-saving, space-saving "48-Frame" motors, you're assured of Century's *traditional industrial ruggedness*. For information and for fast service, call or write your nearby Century District Sales Office or Authorized Distributor.

We Invite Your Comparison of...

engineering— Weight savings up to one-third are made possible without "skimping" on the vital "active materials", simply by eliminating dead weight and using new materials. The result is smaller-diameter motors that are not merely "just as good" but actually superior to the famous Century "56-Frame."



design—For time-saving maintenance, "GITS"-type oilers for sleeve bearings are placed high on the end-brackets, allowing easy oiling from either end of the motor... cluster-type integrally cast fan at the rear end of the rotor draws a steady stream of cooling air over the coilheads... "Square" stator iron permits air to pass between the core and shell, cooling the whole width.



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'The Conscience of the Industry'

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"I have always felt that whatever the Divine Providence permitted to occur I was not too proud to report. The people are not served by pussyfooting, or by that sort of journalism in which nobody will ask who is the editor of a paper or the writer of an article, and nobody will care."—*Charles A. Dana.*

They'll Do It Every Time

by Jimmy Hatlo

GOO... GOO... GOOD MORNING, MR. BIGDOME...
OH-OH... EVERYBODY TO THE BOMB SHELTER—THE OL' BEAR MUST'VE BEEN GOING TEN ROUNDS WITH THE OLD LADY THIS MORNING!
YEAH—SHE WON, BUT WE LOSE! WE'D ALL BE BETTER OFF IN SIBERIA TODAY...
SLAM!
UGH!
THIS WAS ONLY A WARM-UP! SHE'LL BE UP ON THE TELEPHONE POLE ALL DAY WITH SOME CHOICE REMARKS SHE JUST THOUGHT OF...
Y'THINK HE'S SORE NOW? WAIT TILL HE SEES THAT INCOME TAX GUY WAITING FOR HIM IN HIS OFFICE...
JIMMY HATLO
BLAM!
THE BOSS'S BARRACUDA WON THE BATTLE, THERE'S NO DOUBT... SO IT'S ON THE OFFICE GUYS AND DOLLS THAT BIGDOME TAKES IT OUT...
JOHN GREENLEAF HATLOWER
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Ideas About the 'Home Automation Dealer' of the Future

SPLENDID is the word best-fitted to describe reader-reactions to AIR CONDITIONING & REFRIGERATION NEWS editorials. Some of the most brilliant men in our industry contribute priceless thinking to the problems exposed on the editorial page of the NEWS.

To all subscribers therefore, we recommend careful and considerate attention to the following letters from Men of Distinction in our industry.

General Electric Co.
Bloomfield, N. J.

Editor:

I have read with considerable interest your editorial, Dec. 3 issue. I endorse most heartily the approach you are using and would even suggest that this industry has come to the turning point and nothing less than a drastic change in dealer philosophy will be tolerated, not by manufacturers but by the public. The public must be served and as you point out in your editorial, it is not now being served adequately.

For the most part the outlets for these types of equipment have been in existence some years and conversion after conversion programs for upgrading to broaden the dealer horizons have been proposed and then acted upon by most major manufacturers but with little signs of accomplishment after many years.

It is going to take a bold approach such as you suggest to make possible the free flow of these products to the consuming public.

The failure to have a better distribution system today, particularly at the retail level, is not the sole responsibility of the retailer, but involves each step from the manufacturer to the customer, and also each step of the way recognizing the need for change. There is considerable groping and uncertainty as to the share, contribution, and method which each segment can contribute. It is too easy for each segment to consider it is doing its part to provide growth opportunities and that the bottleneck is the other fellow.

I hope this editorial of yours is only the beginning of a strong movement within the industry to recast the distribution channel in the light of the tremendous growth possibilities which are available.

H. M. BRUNDAGE,
General Manager

Worthington Corp.
East Orange, N. J.

Editor:

I think that your editorial should carry a terrific impact in the industry, as it points the way to the solution of a problem that has been bothering us and, I am sure, many other manufacturers like us.

As we all know, the matter of working capital at the dealer level is one of the major problems that is preventing the industry from meeting the consumers demand for our products.

I am sure that you and the NEWS have started something here that is going to point the way to the future development of distribution to the home market.

MATT LAWLER,
Vice President

Servel, Inc.
Evansville, Ind.

Editor:

I agree that "it makes a lot of sense," and I shouldn't be surprised if this editorial will stir up more discussion than anything you have published recently.

LOUIS RUTHENBERG,
Chairman

Lennox Industries, Inc.
Marshalltown, Iowa

Editor:

Your "Home Automation Dealer" idea is interesting, and fun and undoubtedly will come to pass in some communities—but probably more slowly than you have in mind.

The local dealer of real ability is going to remain a very independent guy and we love him for that attitude because it is so natural. Look at the many communities in the 20,000 to 100,000 population bracket. In these you might find from two to a dozen really capable dealers in each community.

But there are literally hundreds of heating and air conditioning equipment manufacturers whose tongues hang out for a chance to sell that "best dealer." The guy is so sought after that he would be something less than human if he did not develop a feeling of importance and independence.

This business of installing and servicing equipment that must be engineered into the home, and then built in as part of it, has always been somewhat of a "personal business."

JOHN W. NORRIS,
President

Chrysler Corp.
Dayton

Editor:

I agree with you wholeheartedly. Your Dec. 3 editorial. It is one of the best selling messages that I have seen.

I would like to have 150 reprints, if possible, to send out to our field personnel.

J. F. KNOFF,
Vice President
In Charge of Sales

McCray Refrigerator Co., Inc.
Kendallville, Ind.

Editor:

I think the editorial in the Dec. 3 issue of AIR CONDITIONING & REFRIGERATION NEWS is "terrific."

J. W. KRALL,
President

Penn Controls, Inc.
Goshen, Ind.

Editor:

Pertaining to the editorial on "Home Automation Dealer," I certainly think that you have pointed out a logical and inevitable development. There are problems beyond measure and the common need for such an essential organization is apparent in most cities.

I have witnessed something of this idea on a less complete and elaborate scale developed in the plumbing field. As I see it, the basic problem for the man who ventures to set up such an organization is one of service personnel and parts inventory. These old bugaboos will always be with us, but I believe will be minimized by the larger organization with sufficient know-how and capital to train and properly manage the manpower and inventory.

If I were a younger man with enough starting capital and credit, I would be tempted to try to build such an organization myself. I have had the same idea as you outlined for some time. It's a big project.

R. H. LUSCOMBE,
Manager of Marketing

Remco, Inc.
Zelienople, Pa.

Editor:

It seems to me that the prediction covered by your Dec. 3 editorial is purely a matter of time.

What you predict is inevitable. But, it will take time, just the same as it took many years to replace the little Mom and Pop corner grocery stores with the supermarket.

With best recards.

KEN NEWCUM,
Vice President

Brewer-Titchener Corp.
Cortland, N. Y.

Editor:

I agree with you, your editorial does "make sense." My pet thesis is that during the last twenty-odd years we have learned how to make things well in America, but our distribution methods are in many instances as archaic as our manufacturing methods were 20 years ago. Our manufacturing dollar has immensely improved its productivity. What about our distribution dollar?

FREDERIC A. CELLER,
Vice President for Sales

Peerless of America
Chicago

Editor:

I believe that you have come up with an inspired idea!

In our own particular business, for example, we separated our heating division about six years ago because two complete sales efforts and sales organizations were required in the two businesses, in spite of the fact that the coils and other items were practically all made on the same machinery.

Since that time, the heating and cooling segments of our

(Concluded on next page)

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To See the Industry In Action EVERY WEEK

Keep up-to-date on what's going on in your industry. You'll see action weekly in AIR CONDITIONING & REFRIGERATION NEWS. Covers latest news and gives you top how-to-do-it reports on commercial and residential air conditioning, commercial and home refrigeration: manufacturing, contracting, distributing, retailing, and servicing. Read the Industry's newspaper for profit every week. Only $6.00 per year, 52 issues (U.S. and Canada). Foreign: $10.00 per year.

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Home Automation Dealer--

(Concluded from preceding page)

industry have joined forces, heating companies buying air conditioning companies, and vice versa. At the same time the marketing of these items is a sad mixture of old-time retail outlets.

You are absolutely right when you say that a state of confusion must exist in the mind of the purchaser as to where he should go for the various items that make up our present standard of living. Certainly your new "Home Automation Dealer" would bring together these divergent methods for the benefit of the purchaser.

Of course there are a great many problems involved in the final establishment of such a "supermarket" but these would be ironed out in the development.

I believe that you are taking a most opportune time to present and advocate this idea. As a manufacturer, it would be of inestimable value to us to have such a market because our various products would then be aimed at this target. It would involve substantial redesign over the years of all such products that we have made in the past, particularly to fit this new type of operation. An outlet of the type you envision will never be too strong on installation or operating service. However, giving the manufacturer such a target will force him to improve his products to meet the service encountered.

Looking back at the 20's, when only open-type units were available for home refrigeration, we both can well realize that if the same type of unit was used today, there would not be enough mechanics in the civilized world to keep them in operation.

RICHARD WALKER KRITZER,
President

Mueller Climatrol
Milwaukee 1

Editor:

Everyone was very interested in the comments in this article. We have been saying for a long time that the heating and cooling dealer would eventually end up to be one man. A "home comfort salesman" would do not only warm air but wet heat, cooling, and possibly electrical heating. I would say that your article proposes the next step beyond this home comfort salesman.

W. S. SUTHERLAND,
Manager of Advertising

Carrier Corp.
Syracuse 1, N. Y.

Editor:

In my opinion, you have come up with a very bold concept for the future of the air conditioning dealer. I have long felt that there was, in the making, a new breed of cat as air conditioning comes of age and that there would be dealers in increasing numbers whose sole interest would be in air conditioning in all its phases.

Your concept goes much further, however, and it would be interesting to see what the trade reactions are.

JOHN M. BICKEL,
Vice President &
General Sales Manager
Unitary Equipment Div.

Norge Sales Corp.
Chicago 54, Ill.

Editor:

George, the longer I am in this business the more I am convinced of one thing—and that is, any dealer, distributor, or manufacturer can make money in this business if they will just apply sound principles.

Your idea is certainly just that. One dealer could take this idea you are fostering and do a whale of a job out of it; another could take it and fall flat on his face.

Borg-Warner has just developed a deal for selling builders which includes everything from appliances to bathroom fixtures, furnaces, and maybe even the wall papering on the wall. They will have some success with the deal because they will get it properly organized and really go after the business.

I always say that a poor plan with a good follow up will produce better results than the best plan with no follow up or a poor one. The way I feel about these new concepts and new recommendations is that someone will get some good out of them, and go after the deal, and that's what makes for progress in this world.

J. S. SAYRE,
President

Perfection Appoints Smith to Sales Post

CLEVELAND — William H. Smith has joined Perfection Industries Div. of Hupp Corp. as assistant to the heating and cooling sales manager, it was announced by C. W. Millsom, vice president-sales.

W. H. Smith

Smith will help develop Perfection's expanded sales program for 1957 residential, commercial, and window air conditioner business.

Smith was formerly Chicago district manager of Acme Industries. Prior to 1953 he worked as dealer and distributor contact representative for American Radiator & Standard Sanitary Co. He is a 1951 engineering graduate of Lehigh university.

Admiral Appoints Firm 22-County Distributor

CHICAGO—Independent Distributors, Inc., Grand Rapids, Mich., has been appointed the new distributor of all Admiral products in 22 western Michigan counties, effective immediately.

According to W. C. Johnson, sales vice president, Admiral Corp., the firm succeeds Admiral Distributors-Grand Rapids division, which has discontinued its operations.

Johnson pointed out that the former eastern half of the Grand Rapids territory was turned over to another independent distributor, Major Appliance Co., of Lansing, in September, 1956.

Fred C. Sparks is president of Independent Distributors, which was established 20 years ago and distributed the Crosley line for 19 years.

"TICKETS" TO PROSPERITY
MODEL 205C — adjustable superheat. F12, F22, Methyl. Capacity: 2 and 3 tons F12.
MODEL 206C — fixed superheat. F12, F22 or Methyl. Capacity: 0 to 1 tons F12.
MODEL 207C — adjustable superheat. F12, F22 or Methyl. Capacity: ½ and 1 ton F12.
MODEL 214— Air-conditioning. Capacity: 1, 2 & 3 tons, F12, 2, 3 & 5 tons, F22.
MODEL 209 — adjustable pressure limit and superheat. F12, F22 or Methyl. In ½, 1, 1½ tons F12.
THERMOSTATIC EXPANSION VALVES
MODEL 217 — adjustable superheat. Solder connections. Capacity: 2 to 12.5 tons F12; 3 to 19 tons F22.
MODEL 218— adjustable superheat. F12 (16-19-25 tons) F22 (25-30-40 tons.) Available with pressure limit.
MODEL 104D — open-type adjustment. Solder connections. F12, F22, Methyl, and Sulphur. Capacity: ½ ton F12.
MODEL 204C —with graduated pressure scale. F12, F22; Methyl or Sulphur. Capacity: ½ ton F12.
MODEL 304C —F12, F22; Methyl and Sulphur. Capacity: 1 ton F12.
THERMOSTATIC EXPANSION VALVES AUTOMATIC EXPANSION VALVES
MODEL 408—Trap-It. 3 sizes. Connections ¼" to ⅝" SAE.
MODEL 410—Trap-Dri. 5 sizes. Connections ¼" to ⅝" SAE, ¼" O.D. & 1⅛" O.D. Solder.
MODEL 239-A — Constant pressure type — responds to and controls valve inlet pressure. Ranges: 0 to 40, 40 to 130, 80 to 210 lbs.
MODEL 238— evaporator pressure regulator. All non-corrosive refrigerants. Capacity: 1 ton F12.
MODEL 237 — crankcase pressure regulator. Adjustable, 0-40 psi. 2 cap. ranges. 1½ & 3 tons nom. F12.
FILTERS AND DRIERS REGULATING VALVES
MODEL 73 —multi-purpose. Three orifice sizes, four body styles. Strainer screen.
MODEL 67 —sweat or pipe body style. All-purpose. Soft, or metal-to-metal seat.
MODEL 270 —refrigerant. Suitable for hot-gas defrost. ⅜" or ½" orifice.
MODEL 70NAX — refrigerant. Pilot operated, 9/16" orifice.
MODEL 70N —refrigerant. Large capacity. Pilot operated, 1" orifice.
SOLENOID VALVES
FLARE TYPE — ⅛" or ¼" flare-nut. ½, 1, 1½, 2, and 3 tons capacity, F12. Standard 2, 3, 4 — ¼" O.D. outlets.
SOLDER TYPE — for Model 216C, & 217E & 218E TXV's and gen. service. ⅝" O.D. thru 1⅛" O.D. Any number and size of outlets. Capacity thru 40 tons, F12.
DISTRIBUTORS
MODEL 65 — for all non-corrosive refrigerants. Sizes: ⅜ x ½ & ¾" sliding seat (65 to 200 psi, 165 to 300 psi); 1, 1¼" double ceramic seat (70 to 170 psi, 160 to 240 psi).
WATER VALVES

Yours from the A-P line in '57

There's a parlor-car seat reserved for you on the A-P "prosperity special" — all you need is an A-P "ticket". This board just isn't big enough to hold all the popular money-makers in the complete line, but you can be sure each shown here represents the finest in refrigeration and air-conditioning controls available anywhere. And, whether you are a manufacturer or service engineer, you'll appreciate the fast, easy installation plus the prompt delivery from factory and jobber stocks.

Let A-P help you make '57 the best year you've ever had!

A-P CONTROLS DIVISION
CONTROLS COMPANY OF AMERICA
2460 N. 32nd Street, MILWAUKEE 45, Wisconsin
COOKSVILLE, Ontario NIJMEGEN, Holland

DEPENDABLE *Controls*
For Air • Liquids • Gases • Refrigerants

U.L. & A.S.M.E. WATER-COOLED CONDENSERS ¼ TON to 15 TONS and LIQUID RECEIVERS for EVERY REQUIREMENT

Write for our NEW Catalog

STANDARD REFRIGERATION CO.
332 S. Hoyne, Dept. C
Chicago 12, Ill.

Tips To Aid Heating Contractor's Business

Explain to Homeowners About Contractor's Services, Quality Warm Air Systems, Performance To Expect, Importance of Competent Installations

CINCINNATI—Most consumers don't know what a quality home heating system is and evidently don't care.

But this is not a hopeless problem without solution, believes Randall A. Nelson, director of public relations for National Warm Air Heating and Air Conditioning Association.

At the group's 43rd annual convention here, Nelson cited field investigations attesting to the sad state of most heating systems, but he also described how Milwaukee sheet metal contractors cooperated in an advertising campaign that apparently achieved some success in upgrading consumers' ideas of heating.

"There currently exists little or no consumer demand for quality, comfort heating systems. This is being proved to you every time that you are told that the price you are asking for your installation is too high," Nelson declared.

"If you dealer-contractors who are in this audience are interested in knowing the basic reason for the severe competitive situation that exists in your home town today; if you really want to know why your present profit picture looks so dim today; if you are looking for some inkling as to what the future holds for you and your business in the light of this present situation, you will find a good portion of the answer in the following facts:

4 Facts Cited

"1. The average homeowner knows practically nothing about you as a dealer-contractor, nor the reason why your services are important to him.

"2. He does not know what a high quality warm air system is. He doesn't know what it does that makes it worth his while or his money to own one.

"3. He doesn't know what type of heating comfort performance he has a right to expect from the warm air system which he buys today as a result of the better than 35 years of research that has gone into perfecting the system to the high point it is today.

"4. He doesn't know how important it is for him to make certain that he has his heating system installed by a competent dealer-contractor who has the necessary skill, integrity, and 'know-how' to install a system in accordance with the prescribed standards of quality design and installation which have resulted from this research."

As a result of the consumer's "not knowing what he should know about the purchase of a quality warm air system, a good many consumers are not getting one, either," Nelson observed.

Heat Loss 'Not Calculated Right'

Head of the association's Field Investigation Committee, Nelson revealed, "has informed me that in fully 80% of the homes tested by our Mobile Lab during the past six years, the heating installer had not correctly calculated the heat loss of the house—the basic requirement for the design of any good system."

Over-all findings of the committee's work were summarized by its chairman, C. W. Nessell, as follows, Nelson explained:

"The houses with the lowest comfort level were usually tract or project houses and appeared to be directly related to the competitive situation under which the heating systems were purchased by the project builder.

"In many homes with a low comfort level the heating could have been greatly improved by the final adjustment that the heating installer failed to make, probably because his price did not include them.

Reasons Given for Low Comfort Levels

"Low comfort levels were usually the result of economies and short-cuts in the design and installation of the system. In no instance was there a low comfort level in a home with a properly designed, installed, and adjusted system."

Continuing with Nessell's report:

"The comments, compliments, complaints, and criticisms of the occupants (in the homes which were tested) were carefully noted. When this data was reviewed, it became apparent that:

"1. The occupants were aware that the level of comfort in some homes was higher than in others, but did not know why.

"2. Some occupants attributed a low level of indoor comfort to the construction of the house, others to the type of fuel

(Concluded on next page)

Bid on any air with the complete

For more information about products advertised on this page use Information Center, page 31.

Tips To Heating Contractor--

(Concluded from preceding page)

that was used, but none of them to the design and installation or performance of the heating system.

"3. Most of the occupants believed that they had a good heating system even when there was evidence of their obvious discomfort. Their reasons for this were: (a) they had a good brand-name furnace, and (b) the thermometer on the thermostat showed 70° during extreme cold weather."

Tells 'What To Do About Situation'

What to do about it?

"When each local group of warm air heating and air conditioning men in this industry will decide that they have had enough of the present situation and will unite their efforts to correct this situation within the precincts of their own local home town markets, this industry will be on its way out of this present dilemma," Nelson suggested.

What such a local group actually can do was related by Nelson, who described how the Sheet Metal Contractors Association of Milwaukee, Inc., sponsored a cooperative advertising program last spring with 13 full pages in the Milwaukee *Journal.* The cost of about $800 a page was shared by members.

"These dealers realized that if a job was worth doing, it was worth doing well," Nelson said. "So, instead of attempting to pussy-foot around and beg the local newspaper to run some publicity on the same page as they ran their ads, the association contracted with the newspaper for 13 full pages of space. They reasoned—and oh, so correctly—that if they bought the space, they could arrange it to suit themselves," he explained.

Upper two-thirds of each full-page advertisement was devoted to editorial type "copy" explaining just what real comfort heating systems can provide. Below were listed the participating contractors.

This campaign "had the whole town talking. The advertising director of the paper wrote to me that people called the newspaper even to thank them for running the campaign," Nelson declared.

"Probably the best testimonial as to whether or not the plan succeeded is the fact that the Milwaukee group plans to sponsor another 13-week, full-page campaign during the coming year," he added.

Cites Success of Milwaukee Program

Success of the Milwaukee program was cited by Nelson as the outstanding example of "Operation WHAM," a plan conceived "by us for the use of the industry some three or four years ago" to let local groups tell consumers the facts about warm air heating and comfort they did not know.

"WHAM" was coined, Nelson said, to stand for *W*arm Air *H*eating and *A*ir Conditioning *M*odernization, but it can be applied to the new home market as well as the modernization market, he emphasized.

NWAHACA To Add 2 Short Courses In '57, Changes Dates of 2

CLEVELAND—The National Warm Air Heating & Air Conditioning Association announced that two more college short course locations have been added to the nine previously scheduled for 1957.

They are Ohio State university, Columbus, Ohio, and North Carolina State college, Raleigh, N. C. The short course in warm air heating and air conditioning at Ohio State will be conducted March 4-7 and the one at North Carolina State March 11-14.

The dates originally announced for courses at two other colleges have been changed. Dates of the course at Purdue university, West Lafayette, Ind., were changed from March 11-14 to April 15-18, and those for the course at the University of Omaha, Omaha, Neb., from April 15-18 to April 8-11.

Other colleges at which short courses have been scheduled are:

Penn State university, University Park, Pa.—Jan. 23-26; Washington university, St. Louis, Mo.—Feb. 4-7; Oklahoma A & M college, Stillwater, Okla.—Feb. 18-21; Michigan State university, East Lansing, Mich.—March 25-28; Long Island T & A institute, Farmingdale (L. I.), N. Y.—April 1-4; Syracuse university, Syracuse, N. Y.—April 15-18; University of Connecticut, Storrs, Conn.—April 29-May 2.

Dealer-contractors may obtain specific information on registration fees and instruction programs by writing to the chairman of the warm air heating and air conditioning course at any of these colleges.

Firm Franchised

CHARLOTTE, N. C.—Elliott Surge Service here has been given the franchise for sales and service of the new Jamesway line of "Sani-Kool" bulk milk coolers for this area.

conditioning job Trane line

'Now! Self-Contained units from 3 to 20 tons make Trane the industry's most complete air conditioning line!

Now you can go TRANE all the way—with a complete line of units to 1500 tons, plus a full line of packaged air conditioners from 3 to 20 tons. It's the finest self-contained line in the industry—easy to sell, easy to install, and backed by a hard-hitting program of sales and service help.

As a TRANE Authorized Dealer, you'll have competitively-priced equipment to handle *any type, any size* air conditioning job. And you'll have the backing of a reliable source, nationally known, nationally accepted.

More and more air conditioning dealers are finding that it pays to go TRANE all the way. These dealers have found that it's profitable to sell and install famous TRANE equipment—equipment that is aggressively promoted and nationally advertised.

Ask your TRANE Sales Representative now about all the extra advantages you'll have as a TRANE Authorized Dealer—or write TRANE, La Crosse, Wisconsin.

HERE'S WHY IT MAKES SENSE FOR YOU TO TURN TO TRANE:

- **Most complete line in the industry!** Competitively-priced equipment for *any* air conditioning job . . . is available to you as a TRANE Authorized Dealer for packaged equipment.
- **A nationally recognized name**—TRANE is well known for outstanding air conditioning equipment . . . the famous TRANE CenTraVac, TRANE Uni-Trane units, TRANE Compressors.
- **A truly national service organization**—fully trained and equipped, available to help when needed.
- **Complete business freedom!** TRANE Authorized Dealers have freedom of action in buying and selling. No quota or minimum order problems.
- **Nationwide sales force**—a network of Sales Offices in 90 cities working with architects and engineers to obtain favorable specifications and over-all company acceptance.

Compact 3 through 15-ton deluxe models pack maximum cooling comfort into a sleek, modern cabinet. Easy to install in store, shop or office with no interruption of business. Exclusive "iso-sound" design has fan section and compressor section floating independently on sound and vibration isolators for whisper-quiet operation!

Easy-to-install 10-15-20-ton commercial sizes for your larger jobs. These big capacity packaged air conditioners will help you get the profitable larger installations. Can be installed outside of conditioned space for use with duct work. With or without built-in water saver.

This advertisement in BUSINESS WEEK, U.S. NEWS and other national magazines is helping build acceptance for the TRANE packaged air conditioners. Other TRANE advertisements appear regularly in SATURDAY EVENING POST, FORTUNE and leading building publications.

Colorful literature to help you sell! TRANE Authorized Dealers get everything they need to sell, install and service, including booklets, proposal covers, window decals, signs for your place of business or installation sites.

For heating, cooling, ventilating . . . for any air condition, turn to

TRANE

MANUFACTURING ENGINEERS

The Trane Company, La Crosse, Wis. • Eastern Mfg. Div., Scranton, Pa. • Trane Company of Canada, Ltd., Toronto • 90 U. S. and 19 Canadian Offices

What Happened In Residential Air Conditioning In Wichita During 1956?

Sales Boom as 38 Contractors Install 1,165 Units In 10 Mos.

What's actually happening in the residential air conditioning field?

Continuing in its efforts to dig up the facts in specific areas where residential air conditioning is being installed in numbers, AIR CONDITIONING & REFRIGERATION NEWS presents here its seventh report on market developments—the 1956 report on Wichita.

By George M. Hanning

WICHITA, Kan.—Residential air conditioning sales are continuing to boom in booming Wichita, a third annual AIR CONDITIONING & REFRIGERATION NEWS survey indicates.

Thirty-eight contractors in this city of a quarter million people sold 1,165 residential units during the first 10 months of 1956, the survey found. This compares with 906 sold by 17 contractors in the same period of 1955 and 979 installed in the full year.

Complete results of the survey, made by a personal canvass of all contractors installing air conditioning in Kansas' "Air Capital," are shown in the accompanying table.

Residential Air Conditioning Installations — Wichita 1956

Contractor	1954 Units	1955 Units	†1956 Units	New Homes	Builder Choice	Owner Choice	Existing Homes	Year Round	Cool Only	Air Cool	Remote	Self-Cont.	Water Cool	Cooling Tower	Sheet Metal Shop	No. Lines
1	130	159	196	120	85	35	76	138	58	126	126	....	70	27	Yes	3
2	60	40	132	44	12	32	88	26	106	16	16	....	116	47	Yes	1
3	10	63	84	70	50	20	14	75	9	40	36	4	44	....	Yes	1
4	28	125	82	72	36	36	10	72	10	60	60	....	22	3	Yes	1
5	....	59	74	74	67	7	....	74	....	69	69	....	5	....	No	1
6	....	....	50	25	12	13	25	40	10	47	47	....	3	2	Yes	2
7	140	150	44	22	4	18	22	15	29	30	30	....	14	10	Yes	3
8	....	9	39	17	7	10	22	39	....	33	*	*	6	4	Yes	4
9	45	60	38	13	10	3	25	20	18	35	35	....	3	....	No	1
10	....	40	35	28	25	3	7	32	3	33	33	....	2	....	Yes	3
11	....	....	35	5	....	5	30	....	35	35	....	35	....	....	No	1
12	....	10	33	2	1	1	31	9	24	31	26	5	2	....	Yes	2
13	26	94	31	31	20	11	....	8	23	31	....	31	....	....	No	1
14	....	....	31	12	....	12	19	*	*	31	*	*	....	....	Yes	1
15	25	35	30	15	15	....	15	30	....	*	*	*	*	*	Yes	1
16	40	28	30	2	....	2	28	8	22	20	20	....	10	6	No	1
17	6	25	25	1	1	....	24	12	13	5	5	....	20	....	No	1
18	....	3	20	15	....	15	5	20	....	....	....	....	20	....	No	1
19	25	15	20	....	....	....	20	2	18	16	....	16	4	....	No	1
20	15	30	19	9	9	....	10	19	....	11	11	....	8	7	Yes	3
21	....	....	15	15	15	....	....	10	5	15	15	....	....	....	No	1
22	....	5	10	9	....	9	1	1	9	7	....	7	3	....	No	2
23	....	....	9	5	....	5	4	5	4	6	6	....	3	3	Yes	2
24	....	6	9	....	....	....	9	....	9	9	....	9	....	....	No	1
25	....	6	9	7	....	7	2	9	....	7	7	....	2	1	Yes	2
26	....	....	8	....	....	....	8	....	8	8	....	8	....	....	No	1
27	....	....	7	1	....	1	6	6	....	4	*	*	3	....	No	3
28	....	2	7	3	1	2	4	2	5	7	7	....	....	....	No	1
29	....	1	6	6	....	6	....	6	....	....	....	....	6	6	No	1
30	....	....	6	....	....	....	6	....	6	6	....	6	....	....	No	1
31		6	6	4	....	4	2	4	2	4	3	1	2	....	Yes	2
32	....	....	5	....	....	....	5	2	3	....	....	....	5	....	No	2
33	....	4	5	....	....	....	5	....	5	5	....	5	....	....	No	1
34	....	....	5	5	....	5	....	4	1	1	1	....	4	....	Yes	3
35	3	4	4	....	....	....	4	4	....	....	....	....	4	2	Yes	1
36	....	....	3	....	....	....	3	....	3	3	....	3	....	....	No	1
37	....	....	2	....	....	....	2	2	....	2	....	2	....	....	No	1
38	....	....	1	....	....	....	1	....	1	1	1	....	....	....	Yes	1
Total	**553**	**979**	**1,165**	**632**	**370**	**262**	**533**	**694**	**440**	**754**	**554**	**132**	**381**	**118**		

*Not available. †1956 unit figures are year to date only; 1955 and 1954 figures are for complete year.

Survey Shows Where Units Were Installed

In addition to the number of units sold by each contractor, the survey indicates whether the units were installed in new or existing homes, whether they were selected by the homeowner or the builder, whether they were air cooled or water cooled, whether the air-cooled units were self-contained or remote, and if cooling towers were installed in conjunction with water-cooled equipment.

Though the picture presented by the survey is as complete as possible, the sales total given may be 10 to 20% short of the true figure.

This is due to two "unknowns," which should be kept in mind when evaluating the data in the table.

Unknown Factors

The unknown factors are:

1. One distributor estimated that local contractors had sold about 30 of his units. But his best contractors could not be contacted. They, therefore, are not included in the survey.

2. Some 280 "fire-damaged" 2-ton central units were sold at auction to individual purchasers in Sedgwick county (greater Wichita) last May. They are not included in the survey total because there was no way of determining whether they were installed in homes, offices, stores, churches, or even installed at all in Wichita.

These were among the units caught in the O. A. Sutton Co.'s warehouse fire last May. In settling the claim, the insurance company took over the "damaged" merchandise and sold it at public auction.

Though most went to private individuals, some were picked up by dealers. At least one dealer advertised them at $299.50, "as is," without any guarantee or warranty. At the time, Sutton and its distributor and dealers took a full-page advertisement to warn the public that they took no responsibility for the units' operation.

The appearance of these units on the market at a time when public interest in air conditioning was at its peak had a pronounced effect on some dealers. Some greatly exaggerated the number of units "dumped" into their market. Some whose sales declined this year, blamed the dumping for it. Others immediately cut their efforts to sell home air conditioning to a minimum, withdrawing from the market almost completely.

These "unknowns" aside, here are the results of the survey:

9 New Contractors

Thirty-eight contractors reported air conditioning installations during 1956, nine of whom were not in the business the preceding year. Of the nine newcomers, four were appliance stores, two mechanical contractors, and one each, plumbing contractor, heating contractor, and air conditioning service manager. Only the plumbing contractor managed to do a substantial volume in his first year.

Of the 1,165 installations, 632 were made in new homes and 533 in existing homes. Though the majority of installations were in new homes, the percentage going into existing homes rose from 42.6% in 1955 to 45.7% in 1956.

Of the units installed in new homes, the builder selected the brand in 370 cases and the homeowner in 262. The builder made the choice in 58.5% of the installations in 1956 as compared with 56% in 1955.

694 Year-Round Systems Installed

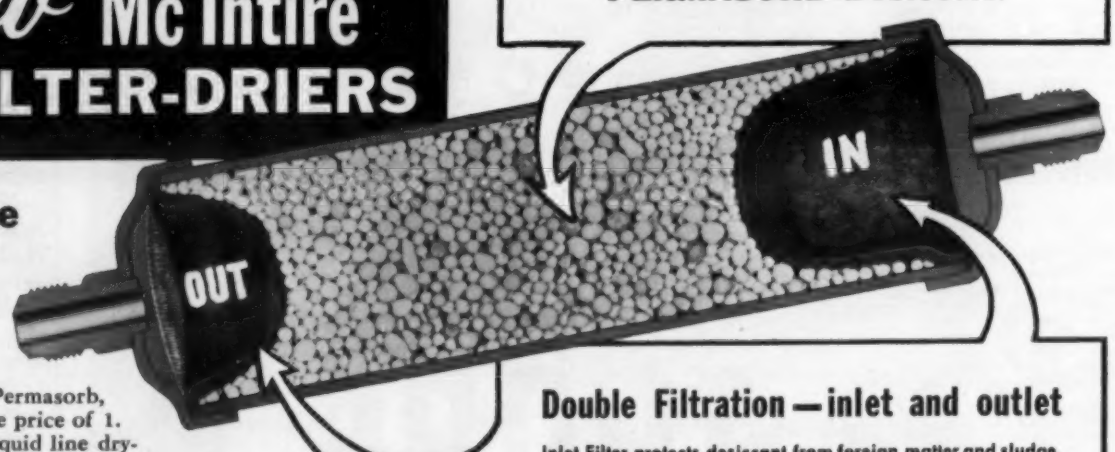
Year-round systems — both heating and cooling installed at the same time—accounted for 694 units while "cooling only"

(Concluded on next page)

Now—more than ever—the Best Drier Value on the Market!

New McIntire DC FILTER-DRIERS

No increase in price!



300% Greater Drying Capacity with the *New* PERMASORB Desiccant

Double Filtration—inlet and outlet

Inlet Filter protects desiccant from foreign matter and sludge. Outlet Filter keeps fines and particles within the drier, out of expansion valves and critical parts.

DC Filter-Driers, with Permasorb, equal 3 driers for the price of 1. You get super-fast liquid line drying of all refrigerants—under all operating conditions and temperatures. No breakdown under extremes of moisture or acid—protects against acid corrosion. DC Filter-Driers, with high-capacity Permasorb desiccant, plus inlet and outlet filtration, are the ultimate in drier economy, system protection and reduced service calls.

Available at wholesalers everywhere

DFN Since 1925

The McIntire Company • Livingston, N. J.

DRIERS • FILTERS • STRAINERS

For more information about products advertised on this page use Information Center, page 31.

Comparison 1956 Wichita Installations to 1955 Installations

	1956	1955
Percentage of units in new homes	54.3	57.4
At builders request	58.5	56.0
At owners request	41.5	44.0
% of units in existing homes	45.7	42.6
% of year-round systems	61.2	59.8
% of cooling only systems	38.8	40.2
% of air-cooled systems	66.4	48.9
Remote condensing unit	80.8	NA
Self-contained	19.2	NA
% of units water cooled	33.6	51.1
% with cooling tower	31.0	44.7
% of contractors having sheet metal shop	47.4	64.7

Wichita Residential Survey--

(Concluded from preceding page)

units numbered 440. Year-round systems accounted for 61.2% of the installations in 1956 as compared with 59.8% during the year 1955.

Of the 1,135 units on which this data was available, 754 were air cooled and 381 were water cooled. The air cooled total includes Coleman "Air Mist" condensers, which are considered to be air cooled by the manufacturer.

Air-cooled systems numbered 66.4% of the total as compared with 48.9% in 1955. This sizeable jump reflects the increased availability of air-cooled units plus "bad water" experiences that led some contractors to shift their sales away from water-cooled to the air-cooled units.

Of the air-cooled systems, 80.8% employed remote condensing units, while 19.2% were self-contained. No comparison is possible with 1955 as that data was not requested in the survey then.

Fewer Water-Cooled Units Installed

Not only were fewer water-cooled units sold in 1956, but only 31% were equipped with a cooling tower as compared with 44.7% in 1955.

The contractors surveyed sold 29 different brands of equipment. Twenty-four contractors sold only one line of equipment. Seven handled two lines, six handled three lines, and one handled four lines.

Of the 29 lines, 15 were produced by historically air conditioning manufacturers while 14 were made by historically furnace manufacturers. The 1955 survey showed 18 brands installed, 10 of air conditioning manufacturers and eight of furnace manufacturers.

Eighteen contractors have their own sheet metal shop. Most of those who do not are appliance dealers or handle units that do not require sheet metal work for installation.

More than half of the contractors are in both air conditioning and heating fields. Only a few are strictly air conditioning contractors. Others combine air conditioning with commercial refrigeration, appliances, sheet metal, mechanical contracting, plumbing, or electrical businesses.

As in 1955, few contractors reported any particular service difficulties. Most of the troubles have come from causes other than the air conditioner itself. These include low voltages, overloaded lines, bad water, and poor air distribution. For some, service problems were getting less each year, the survey found.

Complaints Voiced

Some complaints voiced were:

"Dealer must be very careful selling to home with concealed existing ductwork."

"The dealer needs to explain to customers who insist on more than a 20° differential between inside and outside temperatures that this involves a loss of humidity control."

"Our big problem has been getting adequate air circulation through existing ductwork in existing houses, also proper calculation on cooling of perimeter with central returns at floor level."

"Dirty filters. We've had to change two compressors this year."

"Overloading of the water circulating pump."

Stearns Named Crane Chief; Elliott Is Board Chairman

CHICAGO—Frank F. Elliott has been designated chairman of the board of directors of Crane Co. and will be succeeded as president of the company by Neele E. Stearns, formerly vice president for planning and development of Inland Steel Co.

McQuay Ups Williams To Chief Engineer

MINNEAPOLIS — Henry B. Williams has been appointed chief engineer of McQuay, Inc., according to Byron E. James, executive vice president, manufacturing and engineering.

H. B. Williams

Williams has been with McQuay since February, 1943 in various engineering capacities and has had 20 years of experience in the refrigeration, heating, and air conditioning industry.

He is a University of Minnesota graduate and a registered professional engineer in the state of Minnesota. Williams is a member of the American Society of Refrigerating Engineers.

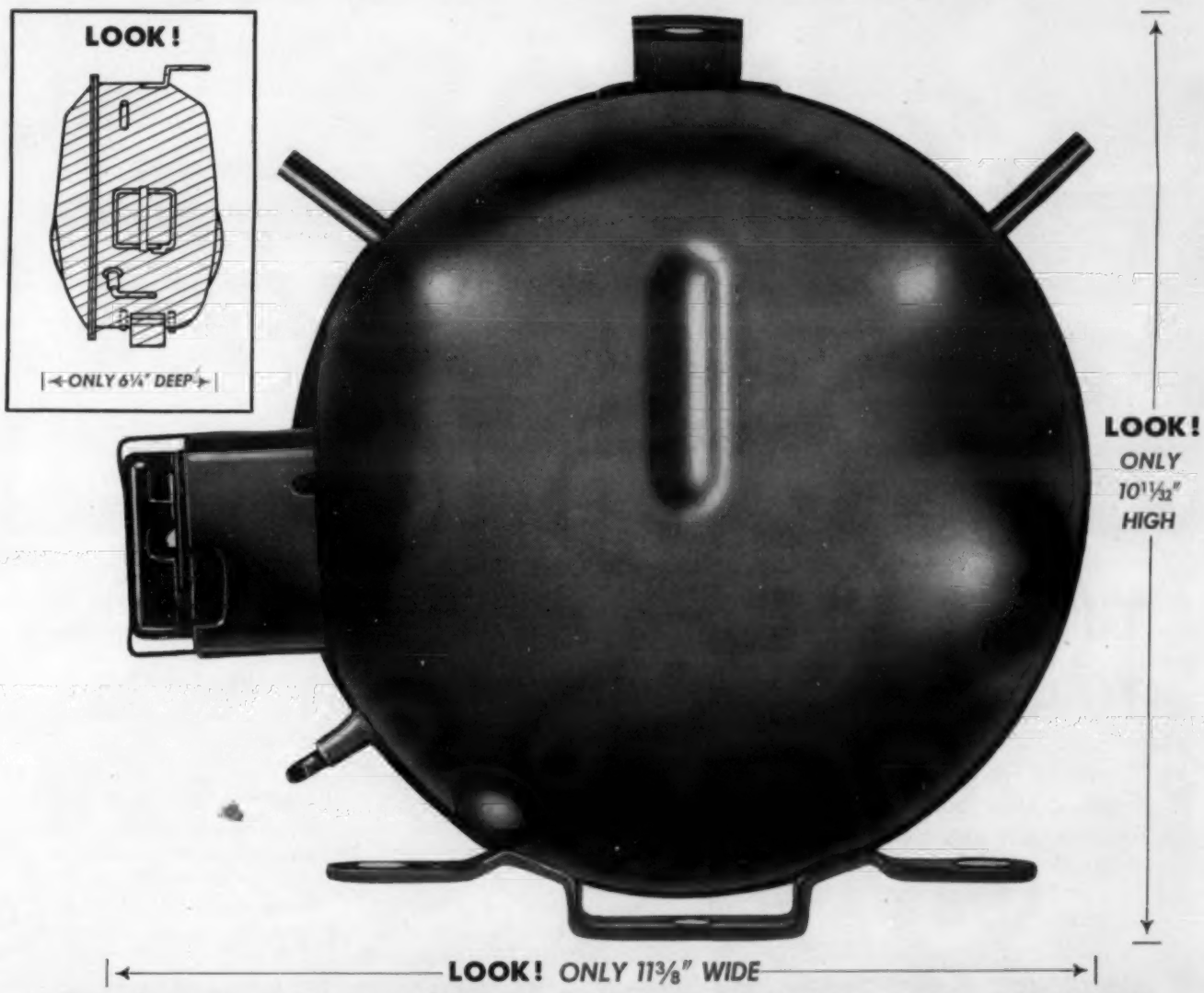
Bus Advertising Aids Florida Cooling Dealer

JACKSONVILLE, Fla. — Florida Weathermakers, local Carrier Corp. air conditioning equipment dealer, has been using space on the back of buses for over four years and finds this "to be an excellent means of advertising," it was reported recently.

Bright "day-glo" colored signs, which reflect in the daytime, are run in a space 15 in. high by 44 in. wide at the rear of local buses. Signs can be read a half-block away, it was noted, and they are primarily seen by following motorists.

Operating all over the city and to nearby beaches, besides covering suburban residential sections, Vernon A. Kelly, Florida Weathermakers president, says this method gives his firm valuable air conditioning advertising.

NOW AVAILABLE...
NEW "SPACE-SAVER" HERMETICS
DEVELOPED BY KELVINATOR



COMPACT, LIGHT WEIGHT, HIGH CAPACITY, TOP QUALITY
... ONLY 10 11/32" HIGH x 11⅜" WIDE x 6¼" DEEP!

Kelvinator now is in production on a series of new, truly compact sealed compressors. These advanced-design "Space-Saver" units have been thoroughly proved in volume testing of production runs. Available in models for natural or forced convection applications, they are ideally suited for household refrigerators, freezers, water coolers, dehumidifiers, beverage coolers and many other refrigerated products. Write now for complete information to Contract Department, Kelvinator Div., 14250 Plymouth Road, Detroit 32, Mich.

Kelvinator
Division of American Motors Corporation • Detroit 32, Michigan

AMERICAN MOTORS MEANS MORE FOR AMERICANS

SPECIALISTS IN REFRIGERATION SINCE 1914

Helps Overcome Buyer's Resistance

Firm Boosts Air Conditioning, Refrigeration Unit Sales by 'Meter Plan'; Customer Makes Down Payment, Deposits Coins

GREENSBURG, Pa. — Commercial Appliance Co. here has given a big boost to its air conditioning and refrigeration equipment sales by reinauguration of the "meter plan" form of selling.

With increased sales resistance from its chief prospects, business establishments, institutions, and clubs, the firm has resorted to this plan of having customers make small payments at one time.

"We featured the meter plan way of buying for about 23 years," explains Walter T. Clayton, general manager of Commercial.

"Then when the war years came along it faded out," he commented.

"Now in the last year we have begun to promote this method again. The lush buying period seems to have fallen off," he averred, "and sales resistance has stiffened. Many customers don't want to finance certain types of equipment and others do not have collateral needed to obtain financing. So the meter plan was brought out to assist them."

Uses Direct Mail

Commercial advertises its meter plan almost exclusively by direct mail. Each mailing piece is stamped "No Down Payment, Meter $1 Daily." "This always arouses interest and results in a substantial number of inquiries," Clayton pointed out.

"We make a mailing at least once a month to our prospects and we get enough inquiries to keep our salesmen busy following up," he noted.

With approximately 5,000 names on its mailing list, Commercial can direct literature to prospects in groups, or to the whole list. For example, if air conditioning equipment is being promoted, a mailing goes out to all prospects, but if beer cooling equipment is being featured, appropriate pieces are sent only to those who use this type of equipment.

Nearly all mailing is literature supplied by manufacturers, Clayton stated.

EXPLAINING meter device on refrigeration unit to a prospective customer is Walter T. Clayton, general manager of Commercial Appliance Co., Greensburg, Pa.

The way Commercial handles its meter plan is for the customer to make the necessary down payment and agree to deposite the required number of coins daily into the meter attached to the air conditioning or refrigeration unit. However, Clayton noted, if used equipment is purchased, no down payment is needed.

Amount to be deposited daily is determined by the cost of the equipment, ability to pay, and time payment period. Taking each factor into consideration, a daily payment is derived that will not exceed what the client can pay.

Collector Makes Periodical Visits

A collector makes weekly, semi-monthly, or monthly visits to each customer, and records the sum extracted from the meter in his collection book.

"There are many customers who need additional equipment or replacement units who do without because of financing," Clayton said. "Our meter plan is an excellent tool to make them change their minds.

"For example, a grocer buys flaked ice daily to be spread over his produce display. He is a good prospect for an ice maker, but is unwilling to make the investment.

"When we explained to him that for a dollar a day," Clayton continued, "which is as much or more as he pays for flaked ice, he can have his own ice maker, he looks at the problem differently.

Up Ice Maker Sales 80%

"As a result, we are now selling 80% more ice makers than we ever did. And all on the meter plan," he said.

When there is no down pay-

(Concluded on next page)

THESE '57 CHEVIES TURNED THE TOUGH ALCAN HIGHWAY INTO A TURNPIKE!

They took the "teeth" out of North America's toughest truck run in an amazing display of stamina and dependability! The Chevrolet Alcan test called for great truck components . . . and here they are, the same modern features you'll get in *your* '57 Chevy!

Modern high-compression 6's—a time-proved Chevrolet truck Thriftmaster 6 made the tortuous Alcan Highway test look easy . . . registered a high 18.17 miles per gallon!

Short-stroke V8 power—with the shortest stroke of any truck V8's, new Chevy engines stand first in their field for efficient load-pulling! Their great performance in Alaska proved it!

Safe, sure brakes now Alcan proved—in light-duty models, Hydrovac power brakes* supplied up to two-thirds of the braking effort!

Unit-design cab and body construction—Chevrolet truck cabs and bodies remained tight and solid on Alcan bumps, showed that they're built to *last!*

Rugged Synchro-Mesh manual transmissions—they displayed never-say-die durability . . . came through with smooth, flexible, trouble-free performance!

*Easy-going Hydra-Matic transmission**—it reduced driver's work immeasurably and it saved wear on drive-line parts, too!

Sturdy frames and long-leaf springs—these brawny chassis components proved they can take it when the going is roughest . . . took the Alcan's worst with strength to spare!

These Alcan-proved Task-Force 57 features and others like them (such as extra-heavy rear axles, new, improved tubeless tires and easy-rolling Ball-Gear steering) are ready to tame your tough truck runs too! Boost your hauling profits by seeing your Chevrolet dealer soon! . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

**Optional at extra cost.*

1957 CHEVROLET TASK·FORCE TRUCKS

PROVED ON THE ALCAN HIGHWAY . . . CHAMPS OF EVERY WEIGHT CLASS! CHEVROLET

IDEAL Speed-Freeze PRODUCTS

BEVERAGE COOLERS AND INSTANTANEOUS DRAFT BEER COOLERS. (With Refrigerated Faucets)

WRITE IDEAL COOLER CORPORATION 2953 EASTON AVE. • ST. LOUIS 6, MO.

For more information about products advertised on this page use Information Center, page 31.

Meter Plan--

(Concluded from preceding page)

ment on equipment, it was added, a used unit is installed. As soon as an equity has been built up to allow for a trade-in, the customer can get one, or keep the units he has.

"We are no longer burdened with used equipment," Clayton said. "It goes out as fast as it comes in. And there have been several instances of used equipment being sold and returned when a new customer takes it and keeps it only long enough to build up an equity."

"Should a customer be in a position to buy new equipment, but he doesn't think it's worth his while," Clayton went on, "we explain our used equipment and meter plan to him. If, after a trial period, he finds he doesn't really need the unit, we take it out, only collecting the daily meter payments."

Another plan used by Commercial, Clayton pointed out, is to "go along with" a good credit risk on a share-the-profit plan. Equipment is installed in a new business and the company takes part of the profits with units put in under a lease agreement at the customer's expense. "We get our money out faster.

"In less than 2% of the cases, these business fail," he declared. "We never lose because we get our equipment back. And 98% of the time the business builds, the customer builds up an equity with his equipment and buys new items. He is grateful to us, so he buys from us from then on."

Commercial has also installed a beer cooler, ice maker, and freezer in a clubroom, figuring the group was a good risk, on the share-the-profit plan, Clayton asserted. "Inside of a few months our used equipment was paid off and the club decided to remodel and get new equipment. Needless to say, we got the business."

For new business ventures, the share-the-profit plan has worked out extremely well, Clayton noted. And for sales resistance by established prospects, the meter plan "is very beneficial."

Tyler Announces 3 Appointments

NILES, Mich. — Appointment of three men to various positions in Tyler Refrigeration Corp. has been announced by George H. Mayhew, vice president and treasurer.

Harold N. Barnes has joined Tyler as chief industrial engineer.

A graduate of General Motors Institute, he comes to Tyler from Servel, Inc. and at one time was associated with General Motors Corp.

Dallas A. Lemmen, who was formerly associated with the National Bank of Detroit, has been named assistant controller of Tyler.

Attorney John T. Nolan has been appointed corporate counsel for both the corporation and Tyler Refrigeration International, C.A.

Schroeder Succeeds Topping In Kelvinator Seattle Sales Post

DETROIT—F. Heath Schroeder has been appointed district sales manager in charge of the Seattle office for Kelvinator's ice cream cabinet division (American Motors Corp.), according to Don H. Carter, sales manager.

He succeeds retiring Frank W. Topping, a pioneer in the industry who helped design and install some of the first mechanical ice cream cabinets in the early 1920's in Detroit.

Prior to joining Kelvinator, Schroeder had been sales manager for Acco Div. of Manitowoc Equipment Works. He joined the Authorized Cabinet Co. as sales engineer before the firm became a division of Manitowoc Equipment Works. Prior to that time he had been sales representative for Western Pioneer Sales Co. of Los Angeles.

Topping's career in the ice cream cabinet business stretches back to 1920 and the earliest days of ice cream storage in mechanical cabinets. He joined Nizer Corp. in that year.

When your problem is...
SIZE...SHAPE or METAL
your answer is
DEAN
COLD PLATES
"Job Tailored" to your specifications
A baffling problem? Try a Dean Cold Plate made expressly to suit your particular requirements. Made in a variety of metals in cylinders, U's, angles, tanks, etc.
Many shapes
Many sizes
Many metals
DEAN PRODUCTS, INC. 1042 Dean St. STerling 9-5400 Brooklyn 38, N.Y

Choice territories now available for sales representation. Inquiries invited.

10 Hinky Dinky Stores Planning Extensive Remodeling, Refixturing

OMAHA, Neb. — Ten Hinky Dinky supermarkets in Nebraska are scheduled for extensive remodeling and refixturing jobs in the next 18 months to include installation of modern refrigerated vending and storage equipment, it was reported by the Hinky Dinky Store Planning and Engineering Dept. here.

Store No. 48 already has received an enlarged meat department back room with increased cold storage comprising 150 cu. ft. of frozen food storage. No. 46's refixturing program includes addition of a 14-ft. frozen food vending case.

In addition to the major remodeling and refixturing projects, the supermarket chain has just completed installation of upright storage freezers in 11 other supermarkets.

All the new refrigerated cases bear the Tyler label.

they're on their way!
THE NEW 1957 MUELLER BRASS CO. REFRIGERATION PRODUCTS COMING FROM PORT HURON...
ARE OUT OF THIS WORLD!
watch for the launching
date soon to be announced
in this magazine!!
40
MUELLER BRASS CO.
PORT HURON 13, MICHIGAN

Ranco Control Has Fixed Differential To 2°

———KEY NO. G-120———

COLUMBUS, Ohio—Ranco Inc. here recently introduced a new commercial refrigeration and air conditioning control series in 016 and 017 models.

A significant feature appears among the fixed differential temperature models in the 016 series, it was noted. This group offers fixed differentials as low as 2° F., the company said.

There are now 11 models in this series, including low pressure, high pressure, and temperature types. All have single pole, double throw switches designed to open or close on rise of temperature or pressure. Manual reset is available on all.

The temperature models in the group feature -30° to 105° F. ranges, adjustable differentials from 2½° to 27° and fixed differentials of 2-4°, the firm noted.

The 017 series includes three dual-pressure models, featuring single pole, single throw switches designed to close on rise of low-pressure side and open on rise of high-pressure side, the company added.

Low-pressure differentials are adjustable between 5 and 40 p.s.i. and high-pressure differentials are fixed at 40, 50, or 60 p.s.i.

The single pole, single and double throw switch actions are rated 15½ amps full load, 60 amps locked rotor for 115 and 230-v. a.c., it was explained. Additional ratings for 115-v. a.c. are 14 amps full load, 84 amps locked rotor on double throw, and for single throw is 15½ amps full load and 84 amps locked rotor.

Strip Coating Can Be Applied by Brush, Spray

———KEY NO. G-121———

MILWAUKEE—A new type of strip coating which can be applied by brush or spray gun was recently developed here by Chemical Consulting Service.

"Strip-Kote" is a high solids, milky colored, plastic emulsion which when dry gives a transparent, tough film for protecting smooth and wrinkled metal finishes, plastic, marble, porcelain, and glass surfaces from being marred or scratched during processing, shipment, or storage, the company said.

The dried film is permanently flexible and is easily stripped to preserve appearance on surfaces, it was noted. It contains no flammable solvents. The solid content in the film forming portion is 52%. Coverage varies according to thickness of film deposited.

Pilot Positioner Provides Control Accuracy

———KEY NO. G-122———

MILWAUKEE—A new fast-acting pilot positioner that provides control accuracy was recently developed here by Johnson Service Co.

Designed for applications requiring precise repositioning for small changes of air pressure from the controlling instrument, maximum power is said to be available at all times for repositioning the controlled device.

Supply air at 15 to 20 p.s.i. is connected to the unit. A direct-acting relay transmits changes.

Ice Maker Produces Up to 475 Lbs. Daily

———KEY NO. G-123———

FARIBAULT, Minn.—American Automatic Ice Machine Co. here recently introduced a large capacity ice maker which uses an air-cooled condenser for cooling purposes.

Model B-500-B produces up to 475 lbs. per day, the company stated, and offers a selection of ice cubes or chips from the one unit. Chip size is made without any crushing or sizing mechanisms or added equipment, it was added.

This "Crystal Tips" model produces both tips and chips automatically and noiselessly, the firm noted. It makes about 10,000 tips or 36,000 chips daily. An ice selector is set to whichever form is desired.

Other features include a 320-lb., insulated, stainless steel lined storage bin, small silhouette of the 62-in. high cabinet, only two water connections, large, full-width, storage bin access doors, and the unit occupies less than 1 sq. yd. of floor area.

252 Lineal Feet of

Sales-Making

McCRAY

CASES

IN THIS

MARSH FOODLINER

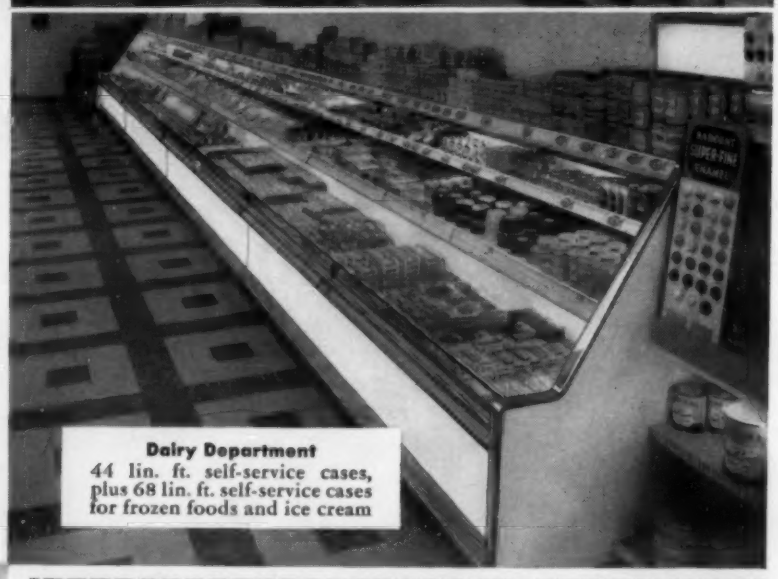
(Van Wert, Ohio)

The big swing is to McCray — for easier shopping, better display, faster sales of refrigerated foods. This fine installation in the new Marsh Foodliner is further proof that leading merchandisers are choosing McCray refrigerated cases. In addition to their sales-making shopping features, McCray cases keep perishable foods fresh, tempting and salable. Fast turnover and efficient refrigeration prevent spoilage, increase profits.

Some territory is available. Send coupon or write for information on dealer franchise.

Meat Department
77 lin. ft. self-service cases make shopping easy

Produce Department
63 lin. ft. self-service cases provide striking display



Dairy Department
44 lin. ft. self-service cases, plus 68 lin. ft. self-service cases for frozen foods and ice cream

McCray
KOLDFLO

65 Years of Leadership in Building Dependable Commercial Refrigerators and Display Cases

McCray Refrigerator Co., Inc., 101 McCray Ct., Kendallville, Indiana
Without obligation to us please send information concerning the McCray franchise and available territory.

Name_____

Address_____

City_____ Zone_____ State_____

Hobart Offers 2 Meat Choppers

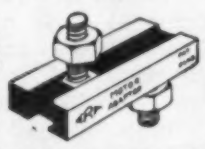
———KEY NO. G-124———

TROY, Ohio—Two new meat choppers were recently developed here by Hobart Mfg. Co.

Model 4812 with ½-hp. motor chops 8-10 lbs. a minute, the company stated. Model 4822, a 1-hp. unit, chops 15-20 lbs. per minute. Both are fine plate, first cutting.

Produced in gray baked-on enamel or brushed finish stainless steel, both models feature newly-designed larger capacity stainless steel feed pans, crevice-free housings, stainless steel legs cushioned with neoprene rubber, locking screws for chopping ends, tinned chopping end with chrome plated exterior, or the "Brite Metal" chopping end, the firm noted.

MOTOR BASE ADAPTERS
Sell Many Other Items



Keep them in stock. Servicemen will pick up adapters and motors, carry them in their cars, and complete service on the job in one call. Eliminates delay of having motors away for rebuilding. Adapters are easy to install, fit any base. No motor shaft too long or too short. They also bring you more sales in motors, belts, pulleys, controls, etc.

SIZES FOR ⅓ to 3 H.P. Inclusive

Engineering Research Associates, Inc.
3475 East Nine-Mile Road
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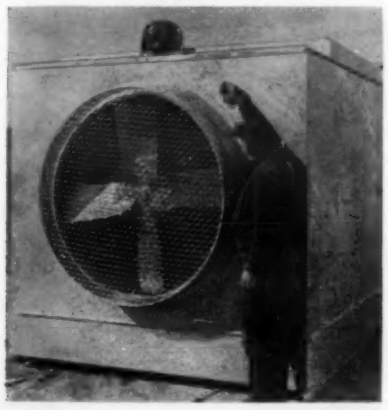


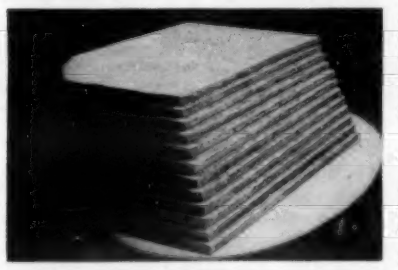
Cooling Tower Features Side-Suspended Decking

——KEY NO. G-125——

INDEPENDENCE, Mo.—A cooling tower with a new side-suspended decking feature for easy basin cleaning was recently announced here by Dover Mfg. Co.

Series CF packaged unit, for air conditioning and refrigeration installations, has a suspension system that leaves the bottom of the basin entirely uncluttered for quick cleaning, the company stated.

A horizontal induced draft tower with propeller fan and stainless steel shaft, the CF tower is available in sizes ranging from 2 to 100-ton capacity. It is hot-dip galvanized after fabrication to insure longer life, is compact, and said to have low operating cost.



Insulation Board Added to Line

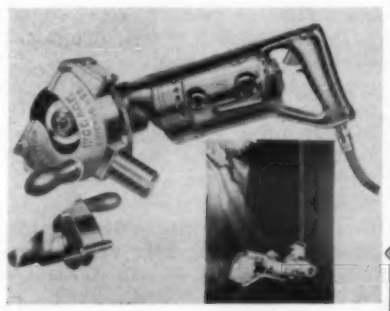
——KEY NO. G-126——

KANSAS CITY, Mo.—Gustin-Bacon Mfg. Co. here announces the addition of G-B "Insulation Board" to its line of insulation products.

"The new product of longer, finer spun mineral fibers will be available through the Gustin-Bacon nation-wide network of distributors," the company said. "Principal use of the new product is for the insulation of heating, ventilating, and air conditioning duct systems.

"G-B Insulation Board is a semi-rigid insulation with excellent thermal and acoustical properties. It is easy to cut with a knife to conform to irregular shaped or curved surfaces and is not irritating to handle.

"It is available in 24 by 48-in. sheets and thicknesses of ¾, 1, 1½, and 2 in. For cooling or combination ductwork it is available with a factory applied vapor barrier."



Plaster Groover Reduces Dust

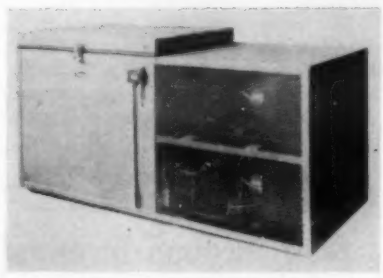
——KEY NO. G-127——

CHICAGO—An "Electric Plaster Groover" was recently introduced here by Wodack Electric Tool Corp. which is said to permit laying of electrical conduit and metal tubing quickly without filling the air with dust.

The unit consists of a case which houses a universal motor operating on either a.c. or d.c., a 6 by ¼ by ½-in. special abrasive wheel with guard, equipped with support handle. This guard is fitted with a nozzle for attaching the hose of any commercial vacuum cleaner to draw away plaster dust. The opening remains closed when the cleaner is not used.

A specially designed handle to which is attached a trigger switch and 15 ft. of neoprene cord with plug-in for any outlet also comes with the unit which is 18 in. long and weighs 16 lbs.

Webber Offers 8-Cu. Ft. Industrial Freezer



——KEY NO. G-128——

INDIANAPOLIS — Webber Engineering Corp. here recently introduced a new 8-cu. ft. industrial freezer designed specifically for testing electronic components, stabilization of metals, and thermal contraction and expansion fitting, it was announced.

Model WE-8-125 has greater production capacity and rapid pull-down from ambient to -100° F. in 30 minutes with a temperature range from ambient to -125°, the company explained.

Four cadmium-plated baskets measuring 10 by 10 by 10 in. handle the component parts. Inside dimensions of the freezer are 24 by 24 by 24 in., the company said. Outside dimensions are 72 in. long, 36 in. wide, and 38 in. high.

Top opening lid is counterbalanced and triple sealed with a low temperature gasket. Access panels allow full opening to unit compartment, the firm noted. Non-hygroscopic insulation is completely sealed against moisture, it was explained.

A cascade system using "F-22" and "F-13" eliminates loss of refrigerant when the unit is not in use, it was pointed out. Refrigeration units are semi-hermetically sealed. Air or water cooled, or combined air and water-cooled compressors are optional. Evaporators are oil-free and the unit operates on 440-v., three-phase, 60 cycle or 230-v., single or three-phase, 60 cycle. Construction is all welded steel and casters, portholes, and viewing window are optional.

Webster Develops Oil Burner Fuel Unit

——KEY NO. G-129——

RACINE, Wis.—A new fuel unit for oil burners was recently developed here by Webster Electric Co.

The "Service-Saver Fuel-unit" features a rotary filter that is fully self-cleaning, the company said. It can't clog, never requires service, eliminates wire mesh strainers, and felt or paper filters, Webster Electric claims.

Having a particle discrimination of 125 microns in the rotary filter, the unit has a sump in the pump cover to collect foreign matter rejected by the filter. It is adaptable to any oil heating system and can be installed on existing furnaces without piping changes, according to the company.

Providing optional inlet and return line ports, the Fuel-unit can be rotated 360° for mounting.

Information Center

For *more information* on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

Products Advertised
(list name, page, and issue date)

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What's New or Current Literature Available

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Call For Ready-Power
NATURAL GAS
Air Conditioning

and give your customers all these advantages:
- economical Natural Gas fuel
- low, low operating costs
- continuous, variable speed operation
- close temperature and humidity control
- automatic controls
- thermostat or push-button start

Fuel cost less than 1¢ per ton-hour
based on gas at 60c per 1000 cu. ft.

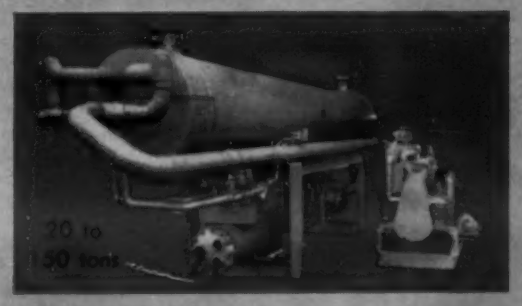
76 Ton Installation at a Country Club—St. Paul, Minnesota

Ready-Power Air Conditioning Units offer every advantage of automatic air conditioning—*at lowest operating costs.* Designed to operate efficiently on economical natural gas, Ready-Power Air Conditioning Units feature a unique system of capacity modulation for high efficiency *continuous cooling.*

Automatic controls allow continuous operation at varying speeds to meet all weather conditions and load requirements. This assures *precise control* of both *temperature* and *humidity* and maximum operating economy at all times.

Ready-Power Air Conditioning Units are adaptable to new or existing installations in sizes up to 76 ton. Multiple units of more than 150 ton capacity have proved highly successful.

Write for complete information.

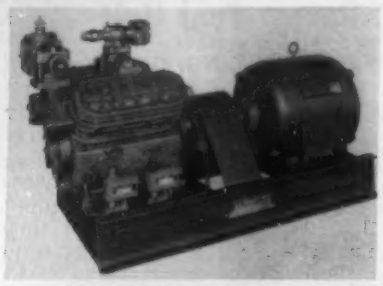


Matched "Chiller Packages" are now available for all models. Factory piped, wired and tested, these Ready-Power "Packages" give you completely integrated refrigerant systems, require a minimum of installation work, reduce costs.

READY-POWER
SAVES AS IT SERVES

THE READY-POWER CO. 11231 FREUD AVE. • DETROIT 14, MICH.
Manufacturers of Gas and Diesel Engine Driven Generators and Air Conditioning Units; Gas and Diesel Electric Power Units for Industrial Trucks

Schnacke Redesigns 20 to 60-Hp. Compressor



KEY NO. G-1210

EVANSVILLE, Ind.—Schnacke, Inc. here recently redesigned its model E compressor which is used for 20-hp. low temperature to 60-hp. air conditioning applications, the manufacturer recently announced.

Designed for 1,750 r.p.m. speeds, this model is operated at top capacity, direct drive for air conditioning ranges, and can also be supplied direct driven at 1,150 r.p.m. for 30 tons at standard temperatures or 40 tons for air conditioning, the firm pointed out. This same unit is used for all other applications by applying proper speed with belt drive at lower speeds.

New features include single discharge and suction valve arrangement for eliminating use of manifolds, the firm noted. Design also includes an "easy access" plate to suction screens.

Constant Flow Faucet Eliminates Adjusting

KEY NO. G-1211

CANFIELD, Ohio — Carbonic Dispenser, Inc. here, manufacturer of "Sodamaster" dispensing equipment, reports a new "constant flow" feature in its "Mix-Monitor" faucet.

This feature assures a steady flow of soda water and eliminates the need for making soda flow adjustments, the company said.

According to the manufacturer, the new design "prevents fluctuation in soda water flow due to slight changes in applied CO_2 gas pressure to the carbonating tank, or variation in the distance from the carbonating tank to faucet in the various remote faucet installations.

"It also prevents decrease in flow caused by small particles of foreign material in the water supply becoming lodged on the surface of the soda water restrictor plug."

Up Hp. on Electrical Feed Through Terminal

KEY NO. G-1212

CINCINNATI — A new higher horsepower hermetically sealed electrical feed through terminal was recently developed here by Fusite Corp. Range has been increased to 7½ hp. at 220 v.

Made in both singles and three pin multiples, the terminals feature special glass extensions on the pins both top and bottom to provide over the surface spacing necessary to meet UL specifications, the company said.

Increasing the current carrying characteristics is the copper core stainless steel pin. This core runs the whole length of each pin.

Combination Has Built-In Purifying System

KEY NO. G-1213

ST. JOSEPH, Mich.—A feature of a 1957 RCA Whirlpool "Imperial" refrigerator-freezer combination recently introduced by Whirlpool-Seeger Corp. is a built-in air purifying system "which sanitizes the air" every 45 seconds and distributes it to all refrigerated foods.

Incorporated in the refrigerator section of the two-door unit, the air purifying system is claimed to cut food spoilage and end odors. Ultra-violet rays emitted by a lamp at the top of the cabinet interior attack airborne bacteria, retard mold growth, and prevent transfer of food tastes and odors, the company said.

Top-of-the-line combinations are available in two sizes. A 15-cu. ft. model has the refrigerator above the freezer, and two 13-cu. ft. models offer a choice of top or bottom location of the freezer. All two-door units have automatic defrost in the refrigerator section.

Other models in the 10-unit line include a 12-cu. ft. single-door

Imperial Mark XII.

combination with refrigerator at top or bottom, a 12-cu. ft. automatic defrosting refrigerator designed as a companion to a separate freezer, and three conventional refrigerators in 8 and 12-cu. ft. sizes. All units are offered with door hinge on left or right.

In the 15-cu. ft. Imperial two-door model, food storage centers include a transparent slide-out meat keeper, twin porcelain-enameled crispers, and three glide-out shelves. A storage door incorporates a 22-lb.-capacity tilt-out fruit bin; cheese, bacon, and butter keepers; and two egg compartments with removable racks. Door shelves accommodate ½-gal. milk containers, tall bottles, etc.

Available as optional equipment, an ice water tap operates at the touch of a glass, automatically refilling as water is withdrawn, it was stated.

Beneath the refrigerator is the 166-lb. freezer section. A new "instant" ice cube ejector requires slight pressure on the handle to drop a full tray of 18 cubes into the 100-cube server bin. Optional ice cube tray filler "works at the touch of a control" refilling trays to proper level and eliminating spillage, the firm said.

A 13-cu. ft. combination duplicates the larger model except in size. A second 13-cu. ft. combination offers 104-lb. capacity freezer on top with refrigerator beneath.

The 12-cu. ft. "architecturally-styled" Imperial "Mark XII" single-door combination provides storage for 95 lbs. of frozen food. Standard equipment includes automatic refrigerator defrosting and ice cube ejector and bin. Ice water tap and cube tray filler are optional.

A twin to a Mark XII separate freezer, the 11.4-cu. ft. model has storage door, automatic defrost, and identical dimensions with the combination. Both can be used as built-in, room divider, or island arrangement.

"Supreme" Whirlpool refrigerator-freezer combination in 12-cu. ft. model features a 95-lb. capacity freezer at the bottom of a single-door cabinet. Another 12-cu. ft. unit has a 78-lb. capacity freezer on top.

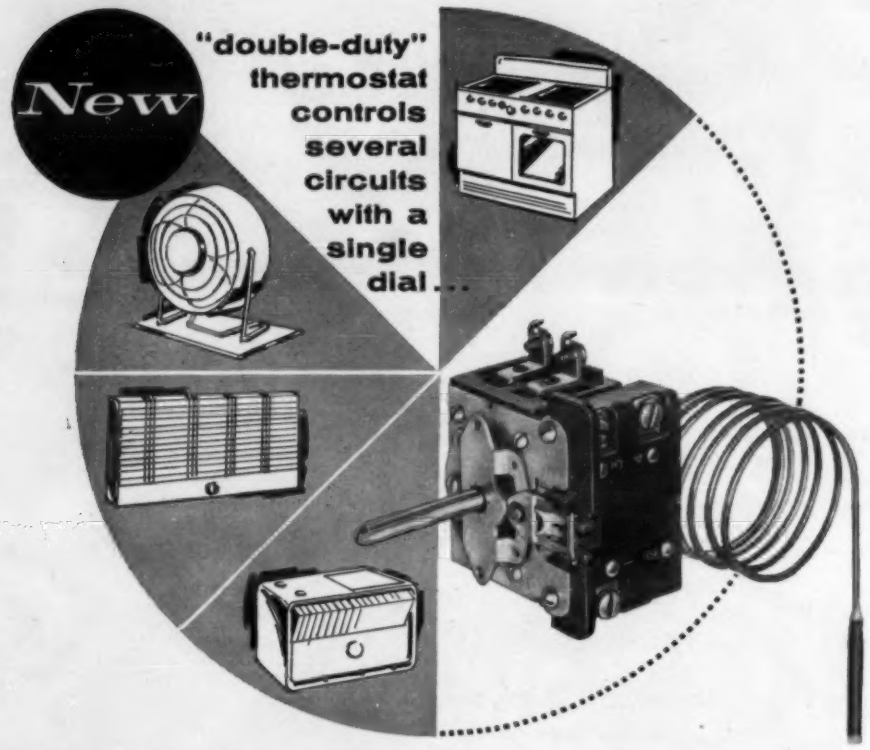
Also included in the line are a "Custom" 8-cu. ft. refrigerator, a 12-cu. ft. "Deluxe" model which has storage for fresh and frozen foods, and a 8-cu. ft. unit with 26-lb. capacity freezer.

Metalized Primer Developed by Nielco

KEY NO. G-1214

DETROIT — Recently developed here by Nielco Laboratories was "Niel-Coat" metalized primers for use on non-ferrous metals.

Of the "Oleoresinous" type of vehicle with corrosion and moisture resistance, the primer can be sprayed onto a steel panel in presence of an open flame, the company said.



the Wilcolator Series GA

COMBINATION THERMOSTAT AND SWITCH

The special feature of this new thermostat, used for both heating and cooling applications, is the switch, cam-operated from the dial shaft. This switch makes it possible to control more than one circuit with a single dial, and to disconnect more than one line when the dial is turned "OFF".

For instance, Type G1-A (heater load) can control both "bake" and "broil" circuits for an electric range, and incorporate double pole break in the "OFF" position. And in an air-conditioner, Type G2-A provides for "OFF position", "fan only", and "fan and cooling" from a single dial shaft.

Amplitude can be factory adjusted to customer's specifications. Contact mechanism is not affected by vibration. For full information on the Series GA, contact The Wilcolator Co., 1001 Newark Ave., Elizabeth, N.J. Canadian plant: Wilcolator (Canada) Ltd., Mimico, Toronto, Canada.

SPECIFICATIONS:

Standard temperature range: 40°F Minimum, 550°F Maximum.

Special temperature ranges: to customer's requirements.

Type G1-A: Contacts open on temperature rise.

Type G2-A: Contacts close on temperature rise.

Contact Rating: Type G1-A, 30 Amp. 125 and 250 volts—AC non-inductive load.

Motor Ratings: Type G2-A.

VOLTS	RUNNING CURRENT	LOCKED ROTOR
120 AC	14 AMP	60 AMP
208 AC	14 AMP	60 AMP
240 AC	14 AMP	60 AMP

Both motor and non-inductive ratings Underwriters listed and approved.

Mounting: Back of panel or in enclosure.

Terminals: Screw Type, AMP or Arkles. Standard shaft size—¼" flatted to .156". Length to customer's specifications.

THE Wilcolator COMPANY

For more information about products advertised on this page use Information Center, page 31.

Expert Urges

Give More Consideration to Emotional Basis of Buying In Sales, Advertising

CINCINNATI — People buy largely on an emotional basis, but if asked rational questions to explain their purchases, they'll give rational answers even though these aren't the real reasons, claims Irving Gilman of the Institute of Motivational Research.

In a talk before the 43rd annual convention of the National Warm Air Heating and Air Conditioning Association here, Gilman urged the industry to give more consideration to the emotional basis of buying in conducting its sales and advertising campaigns.

"Stop worrying about physical patents on product improvement and instead concentrate on building up the personality of your company," he suggested.

Orders Year-Round System, Make Unknown

Explaining that recently he had ordered the installation of an air conditioning and heating system without knowing the make of the equipment until it was delivered, Gilman asked:

"Can you imagine anyone calling up an automobile dealer and saying, 'Send me over a car.' 'What kind of a car?' 'Oh, any kind of a car. I don't care.'

"You can't sell the American public that way," Gilman asserted. "We are largely not a nation of 'have-nots' today, and thus the excitement of mere acquisition of physical things isn't enough any more. We want satisfaction.

"Heating is not looked upon as a friend," he also commented, "or an ally but as an expensive enemy to feed. But the auto is a friend, even if it costs us $900 a year. It helps us."

4 Factors Affecting Human Behavior

In Gilman's opinion there are four major motivating factors which influence human behavior. He labels these the "four S's," to represent Sustenance, Status, Sex, and Security.

"Sustenance, a most important one for your industry, involves protection for the individual's well being, including food, clothing, and shelter.

"Status means recognition. It is not immodest to seek ego enhancement," Gilman asserted. "It's natural to do so, but you can overdo it, of course. You can only win a customer if you appeal to his status," he said.

"Sex as a motivating factor implies not only physical sensations but the whole human responsiveness.

"Security is considered not in a limited sense but in the very broadest sense of the human being's integration in his society," Gilman explained, "and society is dynamic. We do not stand still, we either advance or retrogress. A company can go out of business because it fails to keep up with its customers."

In questioning the public to determine how these factors influence buying habits, "depth probing" by skilled interrogators is required, he said. Only in this way can the real reasons for a person's likes and dislikes be disclosed, Gilman contends.

Gilman implied, without so stating, however, that the air conditioning and heating industries might well devote some effort to such "depth probing" to guide their sales efforts.

"There exists a ritual in buying," he said. "Your industry is locked out of the system, and to break into this you have to understand psychological factors and prejudices of the public.

UC To Offer Course In Aircraft Conditioning

LOS ANGELES — A new course in principles of aircraft air conditioning will be offered in the semester beginning Feb. 7 by the University of California's extension service on the Westwood campus.

Donald E. Brimley, assistant chief of air conditioning at Douglas Aircraft Co., will teach the course.

ASHAE Chapter Discusses Auto Conditioner Controls

LOUISVILLE, Ky. — Control devices for automobile air conditioning were discussed at a recent meeting of the Bluegrass chapter, American Society of Heating & Air-Conditioning Engineers, by F. Y. Carter, manager of refrigeration sales, Detroit Controls Corp., it was announced.

We're SPECIALISTS in

REFRIGERATION
AIR CONDITIONING
ELECTRIC MOTORS

PARTS and Supplies

WE SAVE YOU MONEY because we're specialists, with the largest selection in the world—over 10,000 items—at lowest prices. They're all illustrated, priced and described in our newest HARRY ALTER DEPENDABOOK—"the standard of the trade."

Write on your letterhead for the DEPENDABOOK

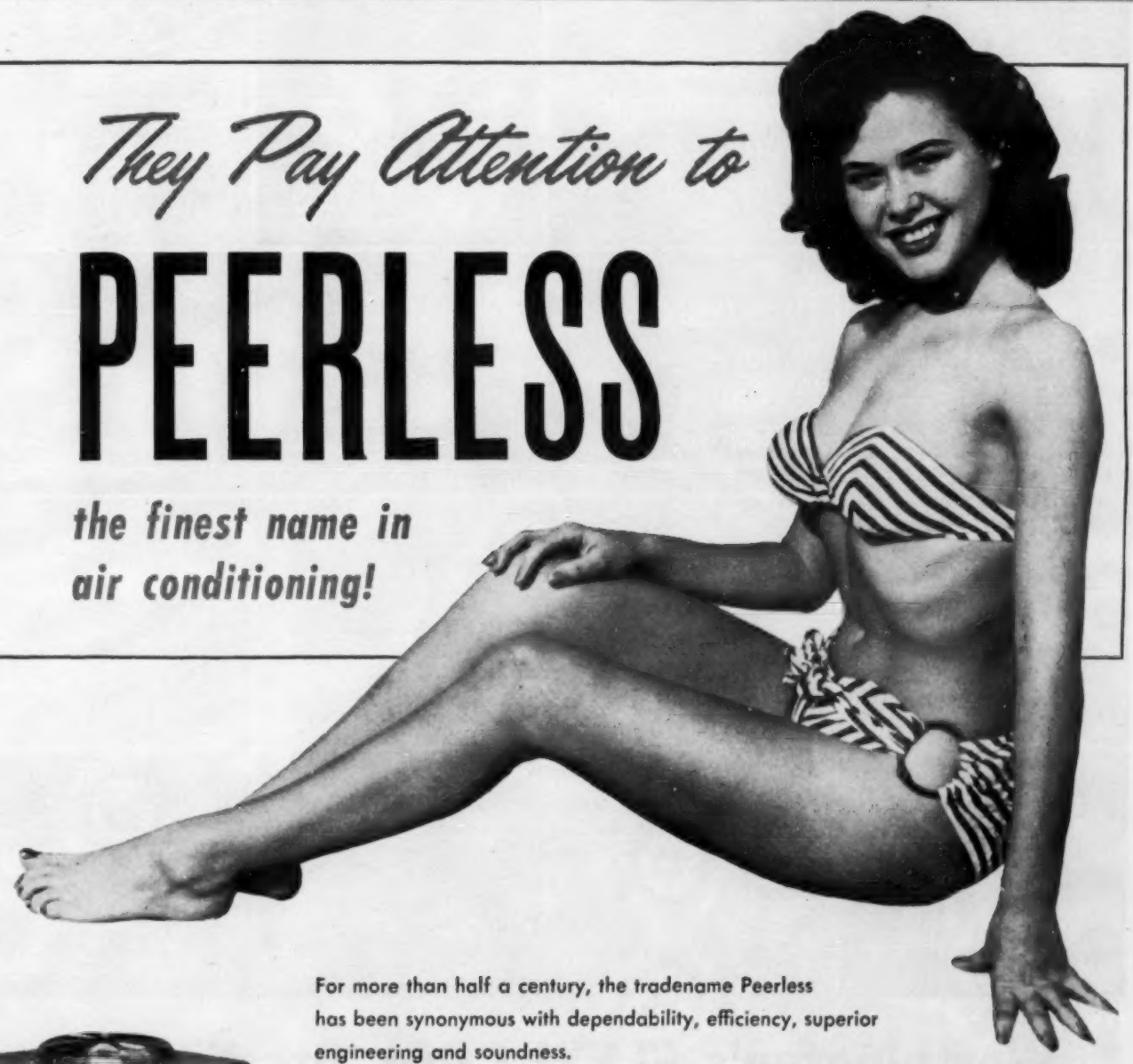
WHOLESALE ONLY

The HARRY ALTER CO., Inc., 1717 S. Wabash Ave., Dept. A, Chicago 16, Ill.

They Pay Attention to

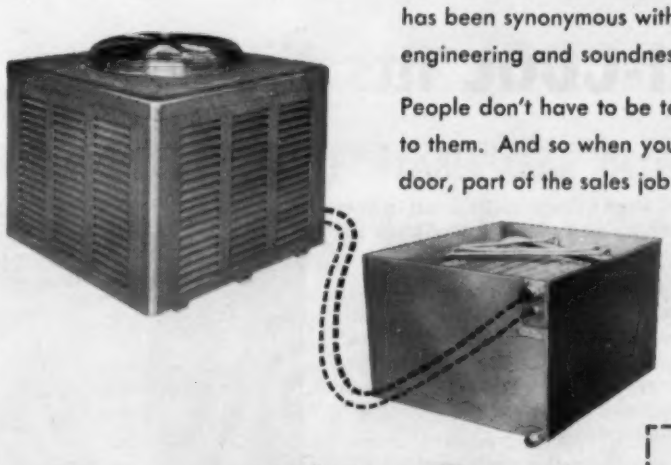
PEERLESS

the finest name in air conditioning!



For more than half a century, the tradename Peerless has been synonymous with dependability, efficiency, superior engineering and soundness.

People don't have to be told that anymore. It's second-nature to them. And so when you put the famous Peerless seal on your door, part of the sales job is already accomplished.



We invite your investigation of the complete Peerless air conditioning line, including the great 1957 Clima-Twin-Aire remote, waterless, noiseless unit.

And now the Clima-Pump!

A great Peerless contribution to a wholly new, 20th century era of heating and cooling . . . all done with one unit. In summer, the All-Electric Clima-Pump performs as any other efficient air conditioning system . . . in winter, it heats by extracting warmth from cold, outside air. A great new development.

PEERLESS CORPORATION
1853 Ludlow Ave., Indianapolis 7, Indiana

GENTLEMEN: Please rush me immediately full information on Peerless air conditioning and the new Clima-Pump.

Name_____

Firm_____

Address_____

City_____ State_____

PROJECT ENGINEER

To assume supervision of air handling design problems for new products and redesign of existing lines. Must have five years' experience with heavy emphasis on sheet metal construction, air handling, fans, blowers and preferably heat transfer background. Mechanical or aeronautical engineering degree necessary. Age range to 40. Excellent opportunity with expanding air conditioning and refrigeration concern located in Southern Michigan. All replies held in strict confidence. Please forward complete summary showing education and work history to BOX A5715, Air Conditioning & Refrigeration News.

Means of Introducing Youth to Air Conditioning, Refrigeration Careers (2)

How To Stimulate Career Interest To Meet Manpower Demand Outlined

By W. N. Willson, Professor, Air Conditioning and Refrigeration, College of Technology, University of Houston

This is the second part of a two-part article in which Prof. Willson contends that if the air conditioning and refrigeration industry is to reach predicted "astronomical statistical heights," something must be done to introduce to the youth of our nation the various phases of our profession and to create an incentive or desire to enter one or more areas during his high school career so that he will consider post high school education at a technical or engineering level."

The article stems from Prof. Willson's concern about "the disinterest the high school youth have today in our industry" and about "the misunderstanding our industry has on the avenues of education and training available to our youth as well as the need for industry's support of our educational institutions." It was submitted at the suggestion of Arley L. Baker, regional sales manager of Alco Valve Co.

Pages can be written in favor of an engineering education, and certainly the professional engineer deserves the highest pedestal of prestige in our Air Conditioning and Refrigeration profession.

Almost daily, we read in our newspapers, magazines, and technical publications about the great need for engineers. The magic figure "80,000 engineers needed in industry today" is never accompanied by an equally important figure of the need of 200,000 technicians and 1,000,000 semi-skilled industrial and vocational workers.

These are national figures and are not the demands for the Air Conditioning and Refrigeration business only; however, our industry certainly requires personnel in the same mathematical proportion. Four or five technicians to each engineering position is the ideal situation and about 10 to 15 skilled service engineers should be available for each professional engineer.

We need an educational program that will fill our schools with students for all levels of industrial competency. An overall program must go farther back than the high school, farther back than the elementary school, in fact, right back into the home. Through every communicative means, we must show that a future in our industry has respectability, profit, and great promise.

'Now Is Time To Plan'

This we cannot do overnight. Education is a process measured best by achievement through generations; nevertheless, now is the time to plan for these generations.

Now is the time to gather all resources. Now is the time to undertake a master plan for obtaining a student body in engineering and its allied branches that will man our tremendous Air Conditioning and Refrigeration industrial enterprise.

It is the responsibility of our educational institutions to train this student body in its various fields of endeavor. Considering the demand of industry, it is imperative that we supply a well-trained prospective employe to meet this demand.

Even though our classes are large, our laboratory and shop facilities are crowded, and our teaching staff overloaded, we cannot meet the demands of industry for trained personnel. There is not an approved vocational program, an accredited technical school, or an accredited engineering college today that does not have more positions open for their graduates than ever before in the history of our industry.

Many educators think this is an extremely healthy situation. I question this. We need to supply the demands of industry and at present, we are unable to do so.

'Industry Should Try To Meet Demand'

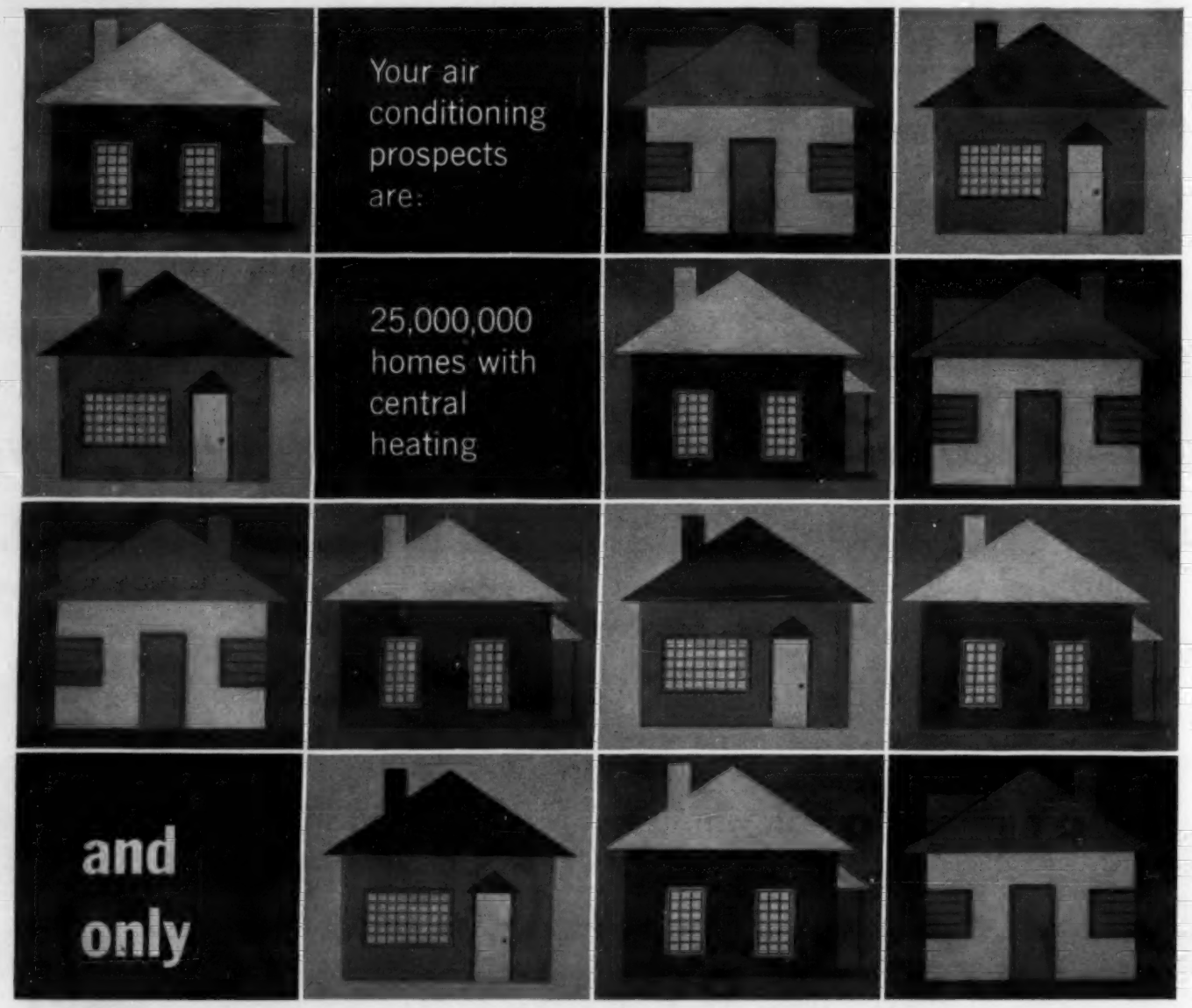
Industry does not accept tremendous backlogs of orders. It rises to meet these demands by increased production. Industry should not accept the lack of manpower, but should attempt to meet the demand, instead of sitting back and expecting educational institutions to supply it with qualified employes. Men of industry and educators should both strive to meet this alarming shortage of manpower. Youth needs to be awakened to the merits of the Air Conditioning and Refrigeration industry.

Explains What Conditioning, Refrigeration Industry Can Do

What can Air Conditioning and Refrigeration industries do to stimulate interest in careers in their area? They must have the cooperation of industrial associations. Refrigeration Equipment Manufacturers Association, Refrigeration and Air Conditioning Contractors Association, National Electrical Manufacturers Association, along with American Society of Refrigerating Engineers, American Society of Heating & Air Conditioning Engineers, and Refrigeration Service Engineers Society, are just a few of the many organizations that should do much to bring the merits of our industry into the high school, the grade school, but better yet into the home.

Educational institutions need the cooperative financial support by these organizations in making a film on "Careers In Air Conditioning and Refrigeration" prepared by professionals, covering the three phases of job opportunities; the Refrigeration Service Engineer, the Engineering Technician, and the Professional Engineer.

(Continued on next page)



Worthington's FLEXI-COOL fits them all!

Only FLEXI-COOL has exclusive sectional construction—is so easy to install in homes with central heating systems. Look how many places it fits:

For warm air systems:

Attic: Install low cost cooling cycle in attic and use with existing furnace blower and filters.

Crawl space: Hang FLEXI-COOL from floor joists in crawl space. Connects easily to warm air heating system.

Basement: Use blower package cooling cycle (blower optional) with basement furnace.

Over closet: Put FLEXI-COOL cycle in attic directly over closet containing furnace. Connects easily . . . saves floor space for other uses.

Remote installation: Place cooling coil in duct work over furnace and connect to outdoor air or water-cooled condensing unit!

For wet heat systems: In ranch houses, complete unit fits in attic . . . distributes cool air through low-cost ducts to ceiling or sidewall grilles. In two-story houses, separate fan, coil and filter units are installed in attic and basement. Both are connected to outdoor air-cooled condensing units.

For complete details on this profit-making line, write Worthington Corporation, Air Conditioning and Refrigeration Division, Harrison, New Jersey. A-6.114

FLEXI-COOL air conditioning can be installed vertically or horizontally in almost any space. Offers choice of air or water-cooled system.

WORTHINGTON

CLIMATE ENGINEERS TO INDUSTRY, BUSINESS AND THE HOME

For more information about products advertised on this page use Information Center, page 31.

Introducing Youth--

(Continued from preceding page)

These career films offered to junior and senior high schools, local television stations, and rural movie theaters could do a great deal to get the young generation indoctrinated into a fruitful career.

A close coordination between industry and educational institutions in securing educational material for presentation is extremely important. These materials would be used in the classroom, laboratory, and shops in order that their facilities may remain up to date in this fast-growing industry.

The obtainability of film, slides, view graphs, as well as cuts, models, and mock-ups, can do wonders in improving material presentation for special courses.

I cannot help but feel that in spite of industry's lack of interest in our educational programs, the schools, colleges, and universities have done an admirable job since World War II. Hundreds of private schools were organized immediately following World War II. A few which were probably motivated by profit under the G.I. Bill emerged with acceptable programs and are doing a fine job today.

Some Programs Related To Cooling, Refrigeration

Federal, municipal, and YMCA schools supporting localized areas have introduced, along with their liberal arts, specialized program related to Air Conditioning and Refrigeration.

Extension divisions of colleges and universities are fast gaining acceptance. Universities and colleges initiating terminal courses in air conditioning and refrigeration are showing justification by raising standards in the senior college, raising budgets for colleges of engineering, and increasing enrollment in adult evening school classes.

The expected flood in 1960 of college-age youth desiring post-secondary, general, or technical educations will surely justify these programs.

Specialized scholarships, awards, and loan funds for the service engineer, the engineering technician, and the professional engineer would make the prospective student feel that industry is interested in him and in his career.

Articles of interest to the teen age reader, as well as brochures on air conditioning and refrigeration careers would have their place in a program of student inducement.

As service institutions, colleges, and universities consider that giving financial assistance to outstanding but needy students is one of its most important functions.

'Would Be Well To Invest In Today's Youth'

Many companies and indivivuals in the Air Conditioning and Refrigeration industry would do well to invest a little in youth today to insure prosperous tomorrow. Generous college and university supporters do help carry out these obligations; however, there are altogether too few. In all probability, if these financial aids were clearly understood, more outside interest would be stimulated.

Financial aids may be classified in three categories: (1) Scholarships, (2) Awards, (3) Loan Funds. A scholarship is usually an outright tuition gift. These stipends enable promising scholars to devote a higher percentage of their time and total effort to scholarly work.

The range of this type of help is broad—a donor may contribute full or partial payment of tuition, fees, and books.

Scholarships range from $100 per year and up. An award is also an outright gift. It may be made in the form of cash (usually $25 and up) plaques, trophies, memberships in local or national organizations, or subscriptions to trade magazines or papers. This award is

(Concluded on next page)

Edwards
CO-AXIAL CONDENSERS

A TYPICAL CONFIGURATION—EFFICIENT, COMPACT DESIGN

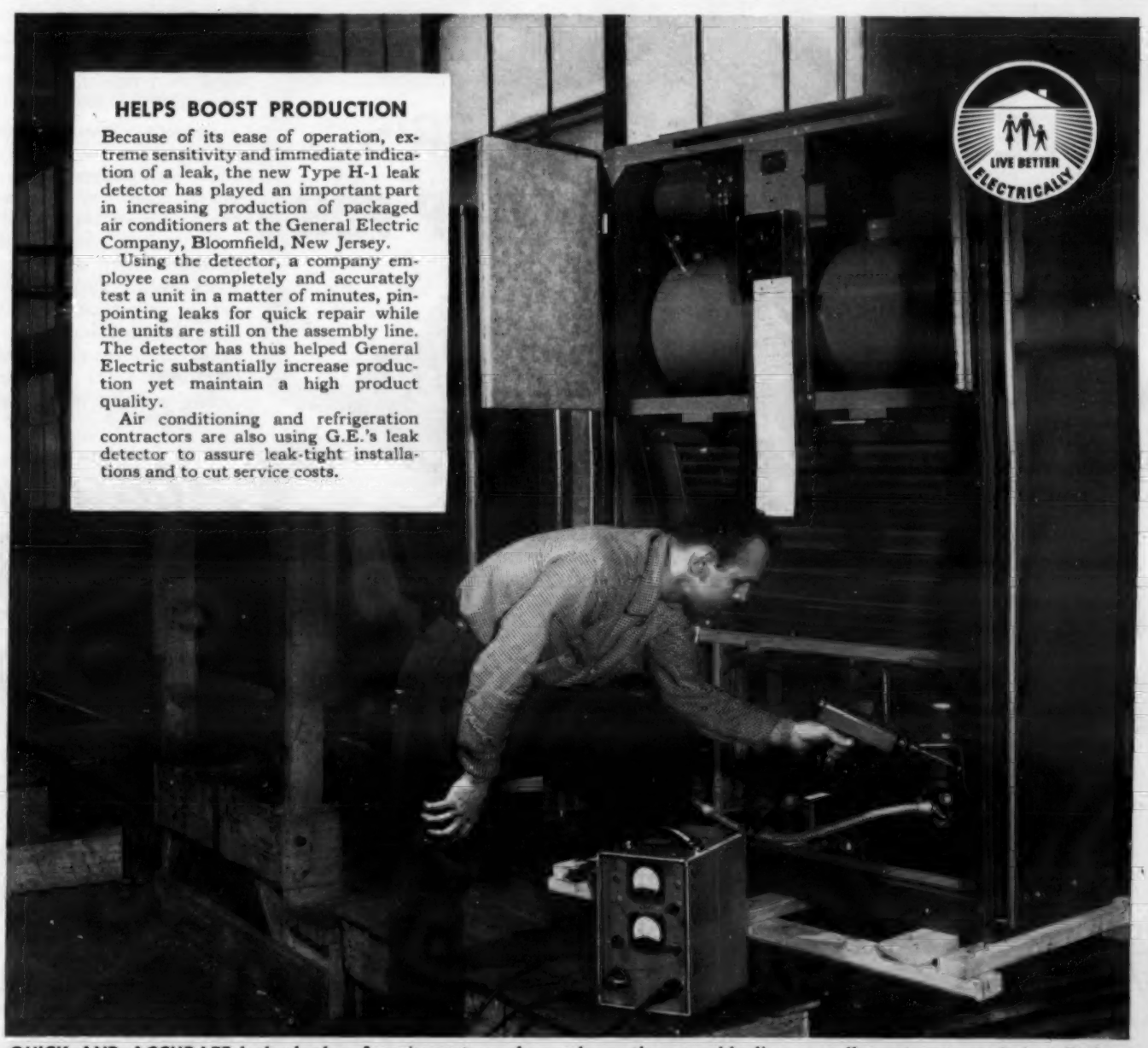
The NEWEST design in water-cooled refrigerant condensers. Used by major equipment manufacturers because of these—

SELLING ADVANTAGES:

- Use 35% less water
- Cost reduced 30 to 40%
- Stock sizes: ½ to 7½ tons
- No internal joints
- Easy installation
- Many compact shapes

Send for catalog TT-652 TODAY or call TERHUNE 5-2808

EDWARDS ENGINEERING CORP.
100 ALEXANDER AVENUE • POMPTON PLAINS, NEW JERSEY



HELPS BOOST PRODUCTION

Because of its ease of operation, extreme sensitivity and immediate indication of a leak, the new Type H-1 leak detector has played an important part in increasing production of packaged air conditioners at the General Electric Company, Bloomfield, New Jersey.

Using the detector, a company employee can completely and accurately test a unit in a matter of minutes, pinpointing leaks for quick repair while the units are still on the assembly line. The detector has thus helped General Electric substantially increase production yet maintain a high product quality.

Air conditioning and refrigeration contractors are also using G.E.'s leak detector to assure leak-tight installations and to cut service costs.

QUICK AND ACCURATE leak checks of equipment can be made on the assembly line as well as at customer's installation.

GENERAL ELECTRIC'S PORTABLE LEAK DETECTOR HELPS CONTRACTORS . . .

Make Jobs Leak-Tight; Cut Service Costs

Service repair reductions of 85% have recently been reported by a G-E Leak Detector user in Michigan who installs air conditioning equipment. Similar savings of time and labor can be yours when you use General Electric's Leak Detector to assure your customers a leak-tight initial installation of reciprocating, rotary or centrifugal compressors; household, commercial or industrial refrigeration systems. And you can handle service calls faster and more effectively during the busy summer months by using this simple instrument to "sniff out" troublesome leaks in installations which you service.

Existing light has no effect on the efficiency of your inspection procedure with the General Electric Type H-1 Leak Detector and even unskilled operators can find leaks so small that in 100 years, only one ounce of Freon* gas would escape.

A true leak signal is assured because the Type H-1 detector automatically offsets slow changes in background concentrations of halogen gases. Only a true leak of halogen gas causes a response. Leaks are indicated by an instrument dial as well as by a variable-pitch loudspeaker or earphones.

Readily portable, the unit weighs only 24½ pounds. It is well suited to use in your shop as well as for service testing in the field wherever alternating current is available.

For more information, call your G-E Apparatus Sales Office or write for bulletin GEC-233 to Section 585-55, General Electric Co., Schenectady 5, N.Y.

**Registered trade-mark of Kinetic Chemicals Division of E. I. duPont de Nemours & Co., Inc.*

Progress Is Our Most Important Product

GENERAL ELECTRIC

How To Stimulate Youth--

(Concluded from preceding page)

given to a student in recognition of superior work already done.

Explains Loan Funds

Loan funds make financial help available in two forms as needed:

(1) Small sums needed in a hurry to meet emergencies. This money is to be paid back in 30 days with no interest charged.

(2) Slightly larger sums needed for school expenses, this money to be paid back during school attendance or after graduation with a low interest rate charged.

The donor may direct the scholarships, awards, or loan funds into any channel of student attainment. A student may receive these gifts on the basis of his leadership, personality, scholastic average, taking part in extracurricular activities, or outstanding work in a classified area; or the gifts may be directed to a freshman, sophomore, junior, senior, or in cases of terminal vocational and technical programs, to the completion of a certain number of semesters or years.

A multiplicity of small scholarships, awards, or loan funds actually stimulates more enthusiasm among the students than a small number of large financial aids. Every school in your community deserves this consideration. These financial aids can do much to interest the student in a career in air conditioning and refrigeration as well as to further the realization that a company or individual is interested in his future.

The question may arise as to what schools or programs should be considered for financial assistance. Most vocational schools are classified by the state in which they are located, or a list of approved programs may be obtained by writing to the American Society for Vocational Education.

Technical schools are accredited by two national bodies, the National Council for Technical Schools, and the Engineering Council for Professional Development. These agencies study technical programs, faculty, laboratory, and shop facilities, as well as graduates' success, before approval.

Mechanical engineering colleges are also approved by the Engineering Council for Professional Development. These agencies are not the sole means of program evaluation.

There are many private, municipal, institutional, and state schools that offer exceedingly good training and educational programs at all levels that have not been accredited by these agencies.

Who To Contact

Contact the Director of Scholarships and Loans of your favorite educational institution for information.

There is a consensus of opinion that "if we can't have quantity, then let's raise the quality." This no doubt, is applicable to the engineering profession, and the trend toward automation in production and operation reinforces this noble effort.

The packaging of air conditioning and refrigeration, the simplifying of installations, the trend to chilled-water packaged units, along with central service and rebuilding shops for high and low sides, is a further step in this direction.

We may be able to reduce the demands of the service and repair department, but the increased uses of air conditioning and refrigeration equipment commercially and industrially will continue to absorb these men at a rate far greater than we can train them.

Today's industry requires brain-power, technical knowledge, and manual skill. Twenty years ago, the processes and equipment of the industry were relatively simple. A high school graduate with a willingness to work could build a successful career in almost any field. Today this person must have a great deal more to offer his employer.

The present high school students can and will accept this challenge. We, however, must help them find themselves, interest them in vocations in which they have aptitude, create an incentive and desire to make the most of themselves in their chosen field and accept them and reward them in industry on the merit the students display alone.

The Air Conditioning and Refrigeration industry is second to none in respect to its potential growth.

This is what American youth must know in order to plan for their future.

G-E Dept. Names Wright, Pittleman District Mgrs.

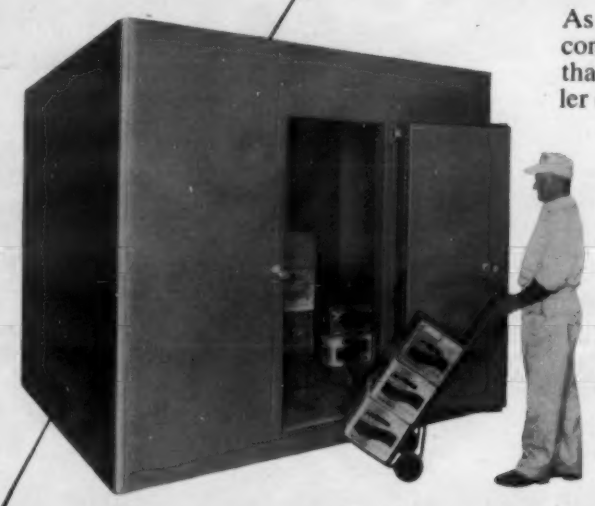
BLOOMFIELD, N. J.—I. W. Pittleman and B. A. Wright have been appointed district managers in the new offices of Cleveland and Chicago, respectively, for project sales and national accounts of the General Electric Commercial & Industrial Air Conditioning Dept., according to B. N. Natkin, national and international sales manager.

The appointments "represent an expansion of the sales staff to meet the rapid growth of the company's sales activities that have resulted over the past two years for the air conditioning department," it was pointed out.

"Formerly, all of national sales and projects were handled out of the New York office," Natkin stated.

MORE FOR YOUR CUSTOMER'S MONEY and A FULL MARK-UP FOR YOU WHEN YOU SELL—

Gloekler



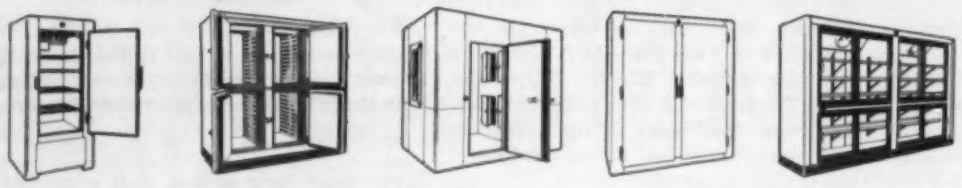
Gloekler Walk-In Cooler Steel Clad Add-to Construction

As a pioneer designer and builder of commercial refrigerators with more than 50 years of experience, Gloekler offers these important advantages:

- Your customers get not only the finest in construction materials and design, but the all-important benefits the industry's most advanced skills and facilities can offer.
- Competitive pricing.
- Written warranty of efficient performance.
- As a Gloekler dealer you are protected on every transaction in your area, and get conscientious factory cooperation in maintaining good customer relations.
- Additional profit through sale of add-on features.

Yes, there's more for your customers and more for you in every Gloekler unit you sell.

STANDARD AND CUSTOM DESIGNS FOR EVERY COMMERCIAL AND INSTITUTIONAL USE!



Reach-In | Bakery Freezer | Display Walk-In | Remote Reach-In | Wall Case

Gloekler P.O. Box 1154-AC ERIE, PA.

A FAMOUS NAME IN COMMERCIAL REFRIGERATION FOR OVER 50 YEARS

Marsh Presents . . .

The one and only water valve for both F-12 and F-22

Yes, you can adjust this new water regulating valve from 60 to 270 pounds by simply twisting that knurled cup at the bottom . . . so now you have one valve that will function equally well on either Freon 12 or Freon 22.

It's new and better in every way: Small and Compact, but with plenty of capacity, smooth modulation, positive operation, excellent flow characteristics. Valve may be manually flushed after installation to remove dirt and grit from line.

Quality construction throughout: Monel seat beads minimize wire drawing and prolong life. Direct acting bellows is leak proof.

Write for bulletin pointing out other brand new features.

MARSH REFRIGERATION EQUIPMENT CO.
Sales affiliate of Jas. P. Marsh Corp.
DEPT. D, SKOKIE, ILLINOIS
Marsh Instrument & Valve Co. (Can.) Ltd.
8407 103rd St., Edmonton, Alberta, Can.

Buy from your wholesaler

MARSH Refrigeration Equipment

WATER REGULATING VALVES • SOLENOID VALVES • GAUGES • HEATING SPECIALTIES

For more information about products advertised on this page use Information Center, page 31.

Men on the Move . . .

Hussmann Refrigerator Co.—A. B. Biddle, vice president, has been elected to the newly-created position of executive vice president and Charles E. Hall has been named as general sales manager of regional accounts for Hussmann's wholly-owned sales subsidiary, Hussmann Refrigeration, Inc. Biddle was electric vice president in 1953. Hall was named eastern zone manager in 1956. Austin C. Campbell was elected to succeed W. B. McMillan, board chairman, as president of another Hussmann wholly-owned subsidiary, Hussmann Refrigerator Co., Ltd. of Brantford, Ont., Can. Campbell became vice president and general manager of the subsidiary in 1949. Harry E. Nash has been named manager of Hussmann Refrigerator Co.'s new Haddonfield, N. J. manufacturing plant. For the last three years he has been southeastern divisional sales manager. Production in the new plant will not begin until construction of the first unit is completed in September.

Worthington Corp.—J. R. Matullo has been appointed district manager of Worthington's new Newark district office. This office, located in the Harrison Div. administration building, replaces the former New Jersey branch of the New York district office. Matullo last September was named manager of the New Jersey branch office. E. Weston Hammond has been appointed district manager of Worthington's Los Angeles district office. He was formerly assistant manager there. He replaces J. G. Murphy who has been named special representative.

A. O. Smith Corp.—Elected vice presidents of the firm were U. T. Kuechle, who has been automotive general sales manager since 1954, and Roy A. Dingman, who joined the company last April as industrial relations director. Robert A. Rietz was promoted to assistant secretary. James E. Borchert has been named to the newly-created post of general purchasing agent of productive materials and operating supplies for the central purchasing operation. He was formerly an assistant to M. E. Morgan, director of purchases.

Borg-Warner Corp. — Roy C. Hauck has been appointed manager of the Ingersoll Conditioned Air Div. and L. D. (Dave) Reynolds named to succeed him as plant manager of the Primor Products Div. Hauck has managed Primor for the last several months, moving to this post after serving as assistant manager of Conditioned Air. Reynolds moves to Primor from the York Div. where he was an industrial engineer and assistant to the works manager.

O. A. Sutton Corp.—Charles V. Fisher has been appointed sales manager of the Commercial Products Div. He has been serving as assistant sales manager of the division since 1955. He will be responsible for sales and promotion of "Vornado" central air conditioning systems to both the building trade and individual consumers. Maurice L. Starr has been named sales coordinator for the Consumer Appliance Div.

Wolverine Tube, Div. of Calumet & Hecla, Inc.—Two new administrative posts have been created within the sales division. L. G. Fox has been named manager of products and H. A. Harty, manager of advertising and sales promotion. Fox has been manager of sales service and Harty advertising manager.

Superior Valve & Fittings Co.—William E. Kruse has been assigned to the sales staff of the eastern district office, Bergenfield, N. J. He has been in expediting and sales correspondence work in the general sales office.

Trane Co.—Robert P. Marshall has joined the firm, moving from Servel, Inc., where he was superintendent of the air conditioning manufacturing division. He is taking part in a planning program in preparation for the position of factory superintendent of the company's new air conditioning equipment plant.

AMP, Inc.—John S. Garceau has been moved up from the staff of the vice president in charge of sales to the new post of director of publicity for the company.

Armstrong Cork Co. — Eleven new men have been added to the firm's Insulation Div. field sales organization. They are: John W. Lowe, Atlanta district office; Richard H. McIntosh, David T. B. Norton, and Scott S. Miller, Philadelphia district office; Edward H. Johnson and Robert C. Nichols, Baltimore district office; James A. Boylan, Cleveland district office; Donald R. Calvert, Buffalo district office; William H. Haelig, Jr., Dallas district office; Richard J. Halder, St. Louis district office; and Richard R. Voorhees, New York City district office.

Carrier Corp.—John M. Rachal has been elected a vice president of the firm and will continue as general manager of the International Div.

McQuay, Inc.—Carl W. Larson and John D. Albright were appointed senior engineers. Larson rejoins McQuay after an absence of three years and will work on product design and development, the same job he held for eight years prior to 1953. Albright will work on heat transfer as related to coil development. New with McQuay, he has had six years' experience in the air conditioning and heat transfer field.

Drayer-Hanson, Div. of National-U. S. Radiator Corp.—Bill Keichline, formerly a member of the sales application engineering staff, has been upped to assistant sales manager. He joined the firm in 1952. Roy Graser has been promoted from engineering to the sales department where he will assume the duties of sales application engineer. He will cover Keichline's former territory.

York-Detroit Wholesalers—Deane Worlein is new manager of this subsidiary of Borg-Warner Corp. He will direct distribution of York air conditioning, heating, refrigeration, and ice maker products throughout the lower portion of Michigan. He joined York-Detroit in April, 1956.

Johnson Service Co. — A new branch office has been established at Harvey, Ill. and Donald G. Cherry, formerly of the Chicago branch, will be sales engineer in charge.

Philco Corp.—Norman R. Millard was named manager of sales to utilities for the Appliance Div. He previously served in a similar capacity with Crosley and Bendix Home Appliance Divs. of Avco Mfg. Corp. J. D. Hempleman has been named manager of appliance purchasing.

Friez Instrument Div., Bendix Aviation Corp.—Donald C. McDonald has been appointed to a new position of director of engineering. He previously was assistant director and chief engineer of Cook Research Laboratories.

Pennsylvania Salt Mfg. Co. — Hugh C. Land has been appointed general manager of the newly organized Industrial Div. He has been general manager of the Industrial Chemicals Div. In addition, George R. Lawson has been named director of marketing of the new division. He will direct the combined sales organizations of the former Sharples and Industrial Chemicals Divs. which have been consolidated into the Industrial Div.

Goulds Pumps, Inc.—Philip J. Olmstead has been named chief engineer, a promotion from the post of assistant chief engineer he has held for five years.

Bristol Co. — John E. Kearns, formerly in the application engineering department, has been named manager of a new district sales office at San Francisco.

Diehl Mfg. Co. — A. F. (Fred) Haas has been appointed fan merchandising specialist in the New England area. He formerly was sales manager of E. Pulver Cook, Inc., Providence, R. I., a major appliance distributor for General Electric Co.

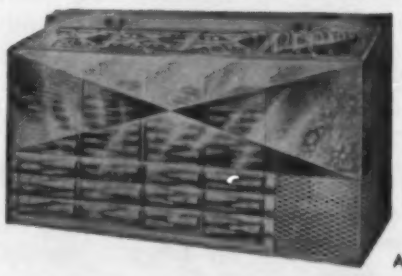
John Wood Co.—Dr. Stuart F. Faunce has been named new product development director. He has been research engineer for Armour Research Foundation.

Norge Div., Borg-Warner Corp.—Richard R. Averill was appointed district manager in Arkansas, Louisiana, Mississippi, and southern Tennessee. He formerly was freezer and air conditioner merchandising manager at Cincinnati for Crosley and Bendix Div., Avco Mfg. Corp. William Golding has been appointed kitchen appliance promotion manager. He previously was Latin-America sales manager of Ziv Television Productions, Inc. in Mexico City.

Whirlpool-Seeger Corp.—William D. Fowler has been named to the new position of defense contracts director. He formerly was in charge of employe relations for the firm. Robert L. Evans, vice president, will assume those duties. David F. Upton succeeds M. R. Denison, who will retire, as director of purchases for the St. Joseph Div.

Crane Co.—David M. McClain, auditor of branches, has been promoted to administrative assistant of the company's branch house division. Frank G. Johnson will succeed him as auditor.

"A CASE OF COOL JUDGMENT"



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SOLD THRU DEALERS ONLY

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United Friguator Engrs.

MENOMINEE, MICH.

AVAILABLE IN SIZES 4 to 10 FT.

IS YOUR OWN BRAND PULLING THE RUG FROM UNDER YOU?

A TYPHOON FRANCHISE PROTECTS YOU AGAINST NEEDLESS COMPETITION

It happens every day. You work your head off trying to land an air conditioning job. Then someone else steps in and offers the same unit at a cut price. That "someone else" turns out to be a wholesaler, a factory-owned branch or the factory itself. But it can't happen with Typhoon. With a Typhoon franchise, the line is *yours*. You get 100% co-operation — not competition — from Typhoon.

HERE'S HOW YOU CAN PROFIT WITH A TYPHOON FRANCHISE:

DIRECT FACTORY CO-OPERATION puts more profit in your pocket. INDUSTRY'S MOST COMPLETE LINE water-cooled or waterless packaged units to 40 tons. Air-cooled or water-cooled condensing units, off-the-floor units, waterless residential units of all sizes, air handling units, complete line of furnaces. LIBERAL FINANCE PLANS easy, inexpensive terms for you and your customers. TOP ADVERTISING COOPERATION Typhoon pays up to 100% of your own local ad costs. No local competitors' names in your advertising. YEAR-ROUND SALES PROMOTION aggressive, field-tested program that pulls in sales at a profit. QUALITY EQUIPMENT the features your customers want, at the price they're willing to pay. NATIONALLY ADVERTISED in Business Week, Progressive Grocer, Architectural Forum, Factory Management, Super Market Merchandising.

DIVISION OF HUPP Corporation

TYPHOON AIR CONDITIONING COMPANY 505 Carroll Street, Brooklyn 15, New York

"take it from me...there's a better way to keep 'em cool"

MITCHELL

ROOM AIR CONDITIONERS DELIVER MORE COOLING PER DOLLAR THAN ANY OTHER MAKE!

- **CAPACITY BOOSTER** Delivers a cooling bonus of 310 BTU's per hour.
- **ROTO CONE** Cools 21% faster by actual test—with a totally new Sweep-Cooling concept.
- **NEW 12 AMP** 1 HP, 115 V CAPACITY—6 different styles that eliminate 230 v. line, yet deliver king-sized cooling; save 10% on operating costs.
- **NEW 7½ AMP** ¾ HP, 115 V UNIT—saves 40% on electricity costs, saves rewiring costs, uses less current than a toaster.

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Mitchell Manufacturing Company—A division of Cory Corporation, 3200 W. Peterson Ave., Chicago, Ill.

SELLING YOUR BUSINESS?

List it in the Business Opportunities Section of the NEWS' classified advertising columns.

(See Page 46)

"mother almost fell off her roost when she heard what

MITCHELL

hatched"

MITCHELL

Roto Cone Cooling!

MAKES CONDITIONED AIR COME ALIVE, COMPLETELY SURROUNDS YOU WITH NATURAL COMFORT

- Cools 21% faster by actual test. • Tailors the air delivery with an infinite range of settings. • Exclusive Sweep-Cooling concept sells itself—no hot spots, no clammy areas, no drafts. • Achieves the ultimate in quiet operation.

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How To Increase Merchandising Appeal

Sell 'Taste' Instead of 'Recipe,' Set Standards, Explain to Homeowner What Air Conditioned Comfort Means, Nessell Says

CINCINNATI — Nearly one-fifth of the homes to be built in 1957 will require two or more thermostats or "comfort units" to achieve satisfactory heating and cooling, believes C. W. Nessell of Minneapolis-Honeywell Regulator Co.

This conclusion was reached after a survey of 1,550 new houses in seven cities and on Long Island, Nessell told the National Warm Air Heating and Air Conditioning Association at its 43rd annual convention here.

6 Reasons for Zoning

Six major reasons for zoning were turned up in the survey conducted by the M-H Market Planning Dept., Nessell disclosed:

"Convection between levels. This applies to all homes whose design characteristics permit the flow of air at different temperatures between the different levels of the house.

"Large, concentrated glass areas. This takes into consideration potential effects on heating and cooling in one or more areas of the house due to 'picture' windows, glass walls, and other exposed glazing.

"Spread-out plan. This considers the unusual exposure problems created by large roof, floor, and wall areas.

"Rooms over garage or exposed spaces. This considers the effects of heat and cold below a room or rooms located above a garage, carport, slab, or unexcavated space.

"Basement occupancy. This recognizes the fact that comfort in an underground area will always be influenced by other factors than those that affect spaces above the ground.

"Sleeping-living. This applies to homes designed around two or more definite and separate areas of occupant activity, each of which will have its own temperature requirements. The differences in separate parts of the house are especially noticeable during the cooling season due to varied external and internal load conditions."

The survey was made in Atlanta, Boston, Cleveland, Houston, Minneapolis, New Orleans, and St. Louis, besides Long Island, and involved single dwellings costing over $10,000, Nessell explained.

"The average homeowner and more specifically his wife know that they are either comfortable or uncomfortable in their home in the dead of winter or the heat of summer.

"But they seldom know why," he said.

"If they are comfortable they thank their lucky stars that they were fortunate enough to get a well constructed house that for some reason or other had a system in it that gave comfort performance," he continued.

"If they are uncomfortable, they blame the house construction and shrug off the heating or cooling system with the comment that one should not expect to be too comfortable in a single occupancy house in the suburbs," Nessell declared.

Have More Indoor Comfort To Offer

"Today this industry has more indoor comfort to offer the homeowner than ever before in history, irrespective of the kind of house he lives in. . . . We have reason to boast of our 'know-how' of heating and cooling a home, but when we try to tell the homeowner about it we speak in meaningless generalities and use a technical jargon that sounds like double talk to him," Nessell complained.

"When homeowners silently accept cold floors, frigid air around the ankles, torrid air around the head, and drafty registers that blow cold air down the back of their necks as an inevitable part of the performance of an indoor comfort system, then, Gentlemen, the conclusion is inevitable that something is wrong. It appears that we have been negligent in telling the homeowner the facts of comfort heating. . . .

'Revise Selling Methods'

"Our industry methods of merchandising indoor comfort—the real end product that we have to sell—are obsolete and archaic," Nessell opined. "They are reminiscent of the automotive industry in 1907 when automobiles were sold on the strength of their components. . . . Because the parts were good, the riding comfort was assumed to be good. . . .

"Now the automotive industry sells on appeals such as 'Power to Pass,' 'Safety,' 'Roadability,' 'Beauty,' 'Ball-Joint Suspension,' and even the 'Forward Look,' all the sort of things that a buyer, man or woman, can understand and relate in measurable terms to their own way of life.

"This industry must revise its merchandising appeal if its high level reputation is to be maintained and the current surge of cheaply installed, poorly performing jobs is to be stopped," Nessell warned.

"We must sell the taste and aroma of the apple pie instead of the recipe that the cook used to make it," he urged.

"In addition to manuals that tell the installer how to put in a good job, we must tell the homeowner what the job installed according to the manual will do for him in terms of his comfort. We must have comfort performance standards that specifically define what indoor comfort means, and they must be written in 'kitchen English.'

"When such a set of comfort performance standards are available, the homemaker will have something that she understands that she can use to judge one heating estimate against another by insisting that certain comfort standards be the basis of the guarantee.

"Then, and only then," Nessell emphasized, "will the cut-the-price, skimp-the-job, wages-and-no-profit, fly-by-night operator discover that there are other considerations in a job beside the 'lowest' price."

Sees Radical Changes

After reporting some results of surveys of existing home heating systems made by the association's Field Investigation Committee, of which Nessell is chairman, he pointed out that "there have been some radical changes in house construction and occupancy habits over the past 15 years.

"The old style two-story box house could be adequately and satisfactorily heated by a single furnace and a single thermostat. It had few large glass

(Concluded on next page)

Save Time

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February 25—March 1

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For more information about products advertised on this page use Information Center, page 31.

Raising Merchandising Appeal--

(Concluded from preceding page)

areas, and, regardless of time of day, heat losses from each of the rooms or areas were fairly uniform.

"Ten or 15 years ago, for example, picture windows were almost unknown. There might have been a large window in the parlor and if so, it was usually protected by a porch. That was as close as we came to picture windows in those days.

"Now it is the exceptional house even in the low price group, that does not have at least one picture window. Glass areas now extend practically from the floor to the ceiling and sometimes an entire outside wall of one or more rooms is made of glass," Nessell said.

"The areas of the house with large window areas gain more heat when exposed to sun than do other sections and consequently their heat losses are reduced. At night these conditions are completely reversed and the glass areas become important areas of heat losses and rooms with large glass areas lose more heat than those in the house with a normal amount of glass.

Explains Winter Heat Gains via Glass

"We are seriously concerned over heat gains through glass when we design for summer cooling. However, we disregard the fact that heat gains through the windows in the winter are often severe enough to overheat a room, thus affecting the thermostat and unbalancing the room-to-room air temperature differences throughout the entire home.

"Instead of the conventional box house of 15 years ago, many of today's homes spread out in all directions. The more the house spreads the greater are the effects of sun, wind, and weather. Thus, it is possible to have overheating and undercooling on some sections and the reverse in others. Fifteen years ago there were virtually no U-shaped, L-shaped, H-shaped homes in the low and medium price class. Now we have them in increasing numbers," Nessell commented.

"The wings of the homes may have maximum heat losses in cold weather that do not occur simultaneously with the maximum heat losses in the main stem of the structure and furthermore, their relative magnitudes may not be coincidental throughout the 24 hours of the day. These houses are literally two or more houses with respect to heat losses and heat gains.

"It is evident that more than a single thermostat will be required if the desired comfort level is to be maintained in each of the distinctively separate areas of these irregularly shaped homes," he said.

"The high cost of land and the need for larger houses to accommodate larger families have brought about a reversal of the spread-out trend. The houses today, in many cases, are going back to plans utilizing two or more levels but they are not returning to the square box styles. Instead, they are being built for basement occupancy in split level styles, with rooms projecting out over a patio or carport or an unexcavated portion of the home.

Troubles with Split-Level Homes

"The heating or cooling requirements in these rooms is often different from the rest of the home. In our investigation of split level homes we found the upper level overheated, the middle level reasonable comfortable, and the lower level invariably too cold," Nessell revealed.

"This severe temperature unbalance is due primarily to convection and air movement between floors and also due to the greater exposure to outside weather conditions on some parts of the home. Irrespective of the cause, there was discomfort indoors and complaints from owners.

"The home designed for basement occupancy is increasing in popularity in many areas of the country. The basement space, which may be utilized for family rooms, game rooms, and even for sleeping quarters, is very special in its heating and cooling requirements. Room air temperatures in this area are practically unaffected by daily weather changes but are greatly influenced by ground temperatures.

"The above ground area of such a home on a warm sunny winter day may require but little heat while the heat losses through the cold basement walls will demand a substantial amount of heat and provision must be made for both sets of conditions.

Often Need Two or More Thermostats

"It is often necessary to control room air temperatures with two or more thermostats. This offers another advantage—one that is completely in time with today's occupancy habits—namely, providing for separate sleeping and living area temperatures at the same time.

"This has been shown in the Field Investigation surveys. For example, the homeowner may desire more cooling in the living area of the home to offset changing weather effects or the additional heat load created when entertaining in the living area," Nessell said.

"During sleeping hours the homeowner may desire more cooling in the bedrooms. The reverse would be true during the heating season.

"With these trends in housing design and construction, there is little doubt but what the heating and cooling industry must realign its thinking concerning the number of thermostats required in these homes. In fact, it appears that comfort conditions that the industry is striving for will only be a promise instead of a fact if this problem is not recognized and solved," he declared.

In giving details of the Honeywell survey of some 1,550 new homes, Nessell explained that it was assumed that the houses to be built in 1957 would be similar to those constructed in the first half of 1956, and that the seven metropolitan areas and Long Island would be representative.

"While the percentage of homes requiring two or more thermostats averaged almost 20%, the reasons differed in each area," he said.

"In Atlanta, where 15% of the homes would be uncomfortable with a single thermostat, basement occupancy was the major reason. Spread-out floor plans, the requirements of both heating and air conditioning, and convection between levels were also important factors.

"In Boston it was found that 23% of the single family homes over $10,000 would require two or more thermostats. Of this group, 33% would need it because of basement occupancy with rambling floor plans as the second most important factor.

"Twenty-four per cent of the houses in Cleveland needed an additional thermostat — more than half of them because of designs which called for basement occupancy," Nessell explained.

"The situation was different in Houston but the percentage of homes needing additional thermostats remains near the 20% level. The two major reasons in Houston are spread-out plans with their attendent exposure problems and varying temperature requirements between sleeping and living areas.

In Minneapolis, 19% of the homes were found to require two or more thermostats with basement occupancy again the dominating factor.

"In New Orleans, 16% of the homes required two or more thermostats. Rambling and spread-out floor plans along with differing requirements for sleeping and living areas were mainly responsible.

"The same situation existed in St. Louis where 15% of the homes require additional thermostats. In this instance spread-out and irregular floor plans were the chief reasons found in the study.

"A separate study was conducted in Long Island where land prices have been high and split level homes are in great favor compared with the rest of the country. Sixty-six per cent will need two or more thermostats. Most are split levels with recreation rooms and living areas at or below the ground level."

SERVICEMEN

Experienced in Refrigeration, Air Conditioning and Heating. To work in Lake, Cook and Du Page Counties in Illinois and Lake and Porter Counties in Indiana.

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"MITCHELL the greatest thing I've ever seen since that fellow who used to swim in here"

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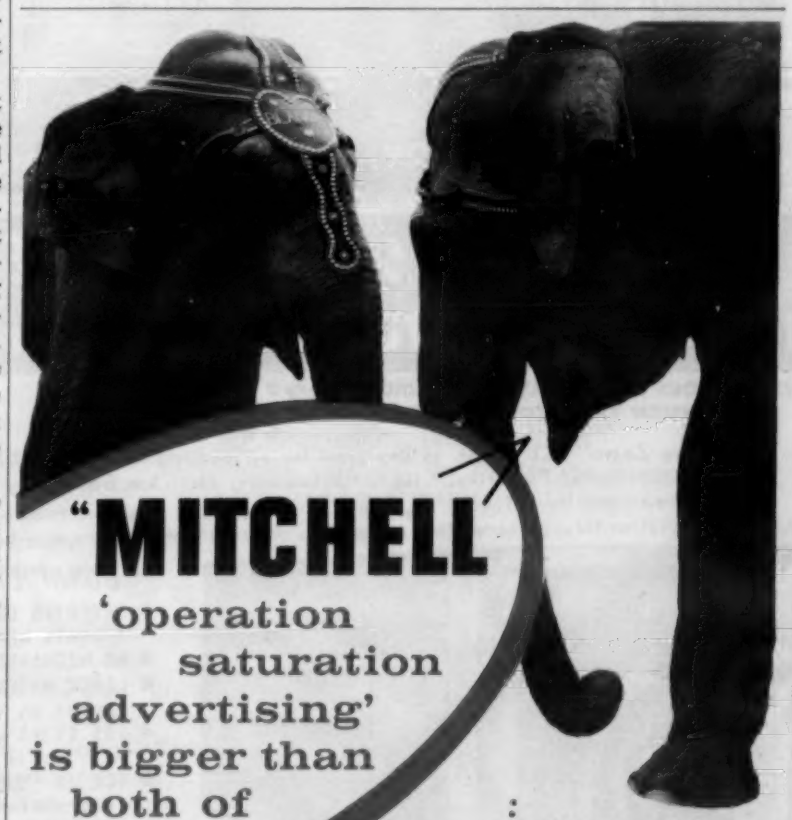
ARE you in need of a "just right" man to fill a slot in your organization—the man you are looking for will be reading the

NEWS' CLASSIFIED ADS

(See Page 46)



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• Packs the punch of over 1,000,000 local lines and local dollars. • Pyramids the power of newspapers, radio and television into volume sales profit. • 100% distributor paid, if you act now! • Sell the big plus: Roto Cone, the exclusive Sweep-Cocling concept that sells on sight.

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Plant Tour To Lead ARW Region 7 Jan. 17 Meeting

WICHITA, Kan. — A trip through the Boeing Aircraft Co. plant and a talk by the personnel director of Beech Aircraft on "The Magic of America" will be added to the regular business meetings to highlight the Jan. 17-18 Air Conditioning & Refrigeration Wholesalers Region 7 meeting here.

Sponsored by Midwest Refrigeration Wholesalers Association, Inc., at the Broadview hotel, meeting schedule includes a business meeting (closed to Region 7 members) at 9:30 Thursday morning, Jan. 17. Wives are invited to go along at 2 p.m. on the trip through the Boeing plant.

Another business get-together is set for 9:30 Friday morning, Jan. 18, to be followed by a formal luncheon for manufacturers and wholesalers at 12:30. Cliff Titus, personnel director of Beech, will give his talk at 1:30 p.m. Cocktail hour is at 6:30, followed by a banquet at 7:30.

Cooling Firm To Build

BUFFALO — The Industrial Metal Work Co. plans to build in Cheektowaga.

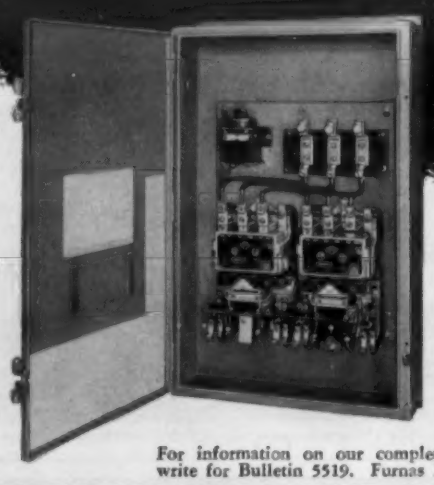
Calgon Becomes Div. as Hagan Adds Chemicals & Controls to Firm Name

PITTSBURGH—Hagan Corp. changed its name to Hagan Chemicals & Controls, Inc.

At the same time its subsidiaries, Calgon, Inc., Hall Laboratories, Inc., and The Buromin Co. will be merged into the parent company. Calgon and Hall will continue as divisions.

In announcing the change, W. W. Hopwood, Hagan president, said that the new name will better describe the company's activities.

Specify FURNAS ELECTRIC CONTROLS FOR AIR CONDITIONING AND REFRIGERATION



Objectionable voltage drops are eliminated by using Furnas Electric Increment Starters for Part Winding motor applications. These starters have won particular acceptance for the larger horsepower air conditioning and refrigeration units.

Increment starting incorporates the advantages of other types of step starting AT THE LOWEST COST IN THE SMALLEST SPACE. Select the size you need: 10, 20*, 30, 40*, and 60 hp, 220 volts. There are no expensive auto transformers or resistors.

*Major savings with these "in-between" sizes.

For information on our complete line of air conditioning and refrigeration controls, write for Bulletin 5519. Furnas Electric Company, 1041 McKee Street, Batavia, Illinois. A21

FURNAS ELECTRIC COMPANY
BATAVIA, ILLINOIS
SALES REPRESENTATIVES IN ALL PRINCIPAL CITIES

ATTENTION . . . OEM & WHOLESALERS —
DRYERS – STRAINERS – ACCUMULATORS

- ✓ In all spun copper
- ✓ with SAE flare and solder connections
- ✓ custom made to specifications
- ✓ designed for top efficiency, maximum protection of all refrigeration systems
- ✓ specialty items also stocked

Write Today for Catalog & Price Data

WABASH CORPORATION 2300 SOUTH WESTERN AVE. CHICAGO 8, ILLINOIS

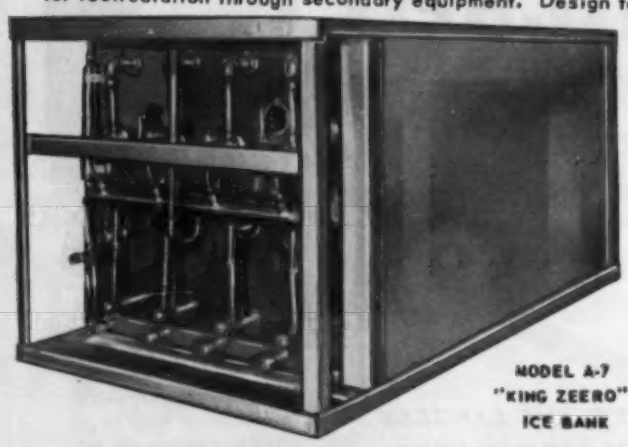
"King Zeero's" Sweet Water ICE BANKS offer ICE-CONCENTRATED Refrigeration for Air Conditioning

CONTINUOUS RIFLED GALVANIZED COILS EXPANSION VALVE CONTROLLED

32°-34° COLD ICE WATER

DESIGNED FOR USE WITH: FREON METHYL CHLORIDE — AMMONIA

The "King Zeero" ICE BANK is designed for air cooling in Churches, Mortuaries, Theatres, Offices, Stores, Auditoriums, Factories, Clubs, Restaurants, etc. Ice Banks may be added to existing systems for increased capacity. The "King Zeero" ICE BANK is designed to deliver 32° to 34° F. sweet water for recirculation through secondary equipment. Design temperatures may be obtained with mixing valves.



MODEL A-7 "KING ZEERO" ICE BANK

CONSIDER THESE ADVANTAGES--

- DIRECTED COURSE OF WATER travels with "built-in" agitation.
- NO MECHANICAL AGITATION REQUIRED.
- LARGE WATER COMPARTMENTS spaced on 11" and 12" centers.
- 33⅓ EXTRA ICE CAPACITY safely attained with up to 300 G.P.M. water flow.
- ICE IS "BURNED OFF" PLATE COILS progressively, exposing prime and secondary surface for maximum flash cooling capacity.
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- 94 SIZES to fit space requirements. Other designs for special applications.

CAPACITIES - 500 lbs. to 30,000 lbs. (72,000 B.T.U.'s to 4,320,000 B.T.U.'s) in a single unit. Multiple units may be installed.

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Government Contracts

SYNOPSIS OF PROPOSED PROCUREMENT

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Commander, New Orleans Army Terminal, New Orleans, La.
DISPLAY CASE mechanically refrigerated, self-service, 220 V. a.c., 3-hp. motor, 16 ft. 6 in.; one ea.; Display Case mechanically refrigerated, self-service, 220 V. a.c., 3-hp. motor, 32 ft. 6 in.—IFB TC 16-049-57-67B—Bid Opening 31 Jan. 57.

Purchasing and Contracting Office, Fort Bliss, Texas.
REHABILITATION OF EVAPORATIVE COOLERS, William Beaumont Army Hospital, Fort Bliss, Texas—Job—IFB AIV-41-014-57-102 B—Bid Opening 2 Feb. 57.

NAVY

Purchasing Dept., Naval Supply Depot, Newport, R. I.
ELECTRIC REFRIGERATORS, total capacity 7.6 cu. ft., total shelf area 12.9 sq. ft., Frozen Food capacity 27.3 lbs., Chill Drawer capacity 430 cu. in., Six position cold control plus defrost and off, interior light, two adjustable leveling glides, ⅓ hp., 115 volts, 60 cycles, net weight approx. 215 lbs., condenser to be enclosed not protruding from back of cabinet. Refrigerator to conform to Fed. Specs. AA-R-211C, Type I. Delivery desired within 30 days after opening date—50 ea. required with right hand doors and 50 ea. required with left hand doors—IFB 298-165-57B—Bid Opening 4 Feb. 57. Requests for inv. and bid should be received not later than ten days from 4 Jan. 57.

AIR FORCE

Purchasing and Control Office, McClellan Air Force Base, Calif.
INSTALLATION OF BOILER in building 656—Job—IFB 04-606-57-472—Bid Opening 25 Jan. 57.

GENERAL SERVICES ADMINISTRATION

General Services Administration, Region 3, Business Service Center, 7th and D Sts., S.W., Washington 25, D. C.
The following items are procured under IFB R2D-82751-R—Bid Opening 1/16/57.
AIR CONDITIONING UNITS, Window mounted with air-cooled condensers, 208 volts, 60 cycle, 1 phase, a.c., 7,500 B.t.u./hr. Cap., 400 ea.—Optional, 200 ea.

Business Service Center, General Services Admin., 620 Post Office and Courthouse, Boston 9, Mass.
AIR CONDITIONING for X-Ray Dept., Boston, Mass. Veterans Administration, 17 Court St.—Job—IFB BOS-57-95—Bid Opening 1-18-'57.

General Services Admin., Region 2, Business Service Center, 250 Hudson St., New York 13, N. Y.
REPAIR TO REFRIGERATION COMPRESSORS, etc. at U. S. P. O. & Courthouse, Brooklyn, N. Y.—Job—IFB-2PC-7-752(Advt)—Bid Opening 1-15-57.

General Services Admin., Region 3, Business Service Center, 7th and D Sts., S.W., Washington 25, D. C.
REPAIRING MAIN AIR CONDITIONING COMPRESSOR MOTORS, Fed. Trade Commission Bldg., 7th St. and Constitution Ave., N.W., Washington, D. C.—Job—IFB GS-R3-B-4994—Bid Opening 1-29-57.

Water Softener Producer Denies FTC Restraint of Trade, Monopoly Charges

WASHINGTON, D. C.—Culligan, Inc., Northbrook, Ill., a manufacturer of water softening products and equipment, recently denied Federal Trade Commission charges that its contracts with dealers require exclusive dealing or that they threaten to lessen competition.

The commission, in a complaint issued Oct. 31, had charged Culligan with requiring that its dealers refrain from handling competing products in violation of Sec. 3 of the Clayton Act, which prohibits arrangements which substantially lessen competition or tend to create a monopoly.

The commission had cited several types of contracts, including one used as early as 1945 and allegedly still in effect, which required dealers to buy all materials from Culligan.

Denying this contract is unlawful, Culligan maintains that it was necessary to assure proper use, quality, and standardization of materials and equipment which go to make up the Culligan Plan of Water Conditioning Service and to develop and compete for public acceptance.

The company adds that this type contract was necessary for it to enter the market with a new service in the face of "the entrenched or monied position of competitive chemical water softener products, detergents, and consumer home-owned water conditioning equipment."

Culligan maintains further that it actually created a "new area of competition," bringing other sellers into the market and promoting competition with established products.

In this connection, Culligan denies it is the dominant member of the industry and alleges that in the actual market its annual sales and net worth are "inconsequential" compared with any one of numbers of its competitors.

Culligan says its current contract provides for the purchase by its dealers of integral component parts of the Culligan Service Softener and equipment for its regeneration. However, the company continues, there are no provisions for cancellation of the agreement if a dealer fails to comply with this requirement; rather, he may, at the option of Culligan, be reduced from an exclusive basis to a non-exclusive basis.

WHOLESALE SALES MANAGER

Well-established Carrier Distributor, located in Midwestern metropolitan area, requires top-notch sales manager—fully qualified by training and experience to assume complete sales responsibility for a going wholesale operation.

Must have a well-rounded sales background in all phases of commercial and residential air conditioning—able to work with dealers as well as train, direct and inspire his subordinate workers.

The man required is in his thirties or early forties, but definitely on his way up. Very likely, he is now employed as sales manager but is dissatisfied with his present progress.

To such a man we offer an exceptional opportunity, at a salary commensurate with his responsibilities, to carry through a complete sales program for a company having great potentials—and whose sales are now well in excess of $1,000,000.

If qualified, interview will be arranged at our expense. Write giving full resume of qualifications and experience. All replies will be held in strict confidence.

BOX A5720, Air Conditioning & Refrigeration News.

For more information about products advertised on this page use Information Center, page 31.

American Blower Opens Training School On Commercial Cooling to All Comers

DETROIT — A new full-time commercial air conditioning applications and service school open to all commercial air conditioning dealers and servicemen has been announced by American Blower, a division of American Radiator and Standard Sanitary Corp.

Two week-long courses will be offered: one on applications and the other on service. Instruction will be free, with materials, texts, and noon lunch furnished by the company, according to Jim Hosler, manager of commercial air conditioning.

The applications course will teach the proper method of surveying, selecting, and applying packaged air conditioners, plus training in analyzing service problems and methods of service procedure.

The service course will teach the proper servicing of packaged air conditioners with each man performing all service procedures on units installed in a laboratory equipped with packaged air conditioners ranging from 3 to 20 tons. In addition, many hours will be spent in analyzing service problems, Hosler said.

Ken Russell, who for 10 years has taught refrigeration and air conditioning application work, with the New England Technical Institute in Providence, R. I. will teach the courses.

New permanent laboratory and classroom facilities are being set up in the American Blower plant for the school, Hosler said. Due to space and equipment limitations, each applications class will be limited to 20 men, while service classes will be restricted to 10 men.

Intensive instruction will run a full eight hours a day with some optional evening sessions planned, according to Russell.

Three applications courses and seven service courses are scheduled as follows:

Feb. 4 to 8—Applications.
Feb. 11 to 15—Service (already filled).
Feb. 25 to March 1—Service.
March 4 to 8—Service.
March 18 to 22—Applications.
March 25 to 29—Service.
April 8 to 12—Service.
April 15 to 19—Service.
April 29 to May 3—Applications.
May 6 to 10—Service.

Men desiring to attend any of these courses are asked to register in advance, giving their first and second choices of dates. Registrations will be accepted as they are submitted. If a desired class is filled, the student will be enrolled for his second choice. If desired, hotel or motel reservations will be arranged by the company.

All classes except the Feb. 11 service course are still open.

Hosler pointed out that the training will be on American Blower packaged equipment. But, he noted, instruction will be sufficiently basic and general to be of value to those selling or servicing any make of unit.

Jordon Commercial Buys Line--

(Concluded from Page 1)

is being made and changes in 1957 models are being incorporated in the line as production on each model progresses," it was stated.

Executives of Jordon Commercial Refrigerator Co. explained that the change was brought about to consolidate sales activities and bring the merchandising of all Jordon products under one head.

Alfred Levin, Jordon Commercial Refrigerator Co. sales manager, said the general sales pattern would remain unchanged and that prime emphasis would be on sales to freezer-food plan companies, some private label sales, and the development of certain specialized channels of distribution.

Levin has also announced that the original Jordon field sales organization would be retained and augmented by the appointment of additional representatives in areas not now serviced by Jordon.

It was further stated that field warehousing in established areas would continue to be maintained (those in New York City, Chicago, Dallas, San Antonio, Boston, and St. Louis) and new warehousing facilities arranged as the needs arose.

"Recent activities provide an optimistic sales outlook and second shifts at the Jordon plants have been necessary in addition to which new manufacturing facilities are being constructed here which are scheduled to be in operation for the spring of 1957," the announcement further said.

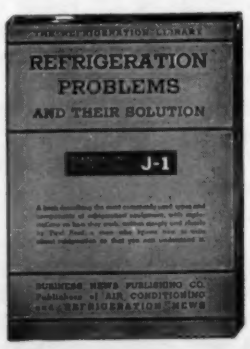
Silco Products Leases Minneapolis Plant

FOUNTAIN INN, S. C.—Silco Products, Inc., which manufactures and installs air conditioning of the commercial type, and for the past 10 years has been operating a plant in Minneapolis, has signed a lease for a new building now under construction in Fountain Inn and will move its entire operation here when the new building is completed, it is learned.

A spokesman commented: "The Silco firm will bring its own engineers and shop foremen from Minneapolis. The rest will be employed here."

The firm last year had a production amounting to $500,000, it was reported. The company will employ about 70 persons in the Fountain Inn plant, it was stated.

REFRIGERATION PROBLEMS
AND THEIR SOLUTION
by PAUL REED



ONLY $1.50 EACH

Make it work! When you're stopped by a tough problem use these practical reference books with a load of factual information about every refrigeration problem you'll meet as a serviceman or salesman. For years Paul Reed has been supplying the answers in his weekly column in AIR CONDITIONING & REFRIGERATION NEWS.

Now this fund of knowledge can be yours in this 5-volume set. Order all now—or one at a time.

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At the new Caterpillar Tractor plant in Decatur, Illinois, four Binks 2-K Series cooling towers play important roles in the manufacturing processes.

at Caterpillar's Decatur plant

Binks towers keep heat treating under cool control

The tough muscles of steel that make "Cat" motor graders and wheel tractors dependable work horses are no accident. All vital parts go through scientifically controlled heat treat processes.

Binks cooling towers play an important part in this process by controlling the temperature of quenching oils and water. They are also used to cool water that circulates to cool bearings in the electric induction heat treat furnaces.

Failure of the cooling equipment could be costly.

Dependability you can count on
Binks cooling towers are built to rigid specifications. All panels and framework are heavily galvanized and coated for long life and minimum maintenance. Fans are corrosion-resistant aluminum alloy. Scientifically balanced air-to-water ratios give high cooling efficiency under all climatic conditions.

A complete line
Whether it is for cooling process fluids or for use with air conditioning compressors, there's a Binks cooling tower, of the correct capacity and type for every job.

Send for complete data
Ask your Binks branch office for a copy of Bulletin 333 and Bulletin 477-A or write direct to the address below. Binks engineers will be glad to answer your questions and help you solve your cooling problems. There's no obligation.

685

Binks
EVERYTHING FOR WATER COOLING

Visit us in BOOTH 1172

A COMPLETE LINE OF NATURAL DRAFT AND MECHANICAL DRAFT COOLING TOWERS AND INDUSTRIAL SPRAY NOZZLES

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REPRESENTATIVES IN PRINCIPAL U.S. & CANADIAN CITIES • SEE YOUR CLASSIFIED DIRECTORY

Mfrs.' Excise Tax Refunds Explained

WASHINGTON, D. C.—A recent bulletin from the Internal Revenue Service states that a manufacturer who buys components, accessories, or other parts on which manufacturers' excise tax has been paid is the person entitled to file a claim for refund, or credit for, of the tax paid.

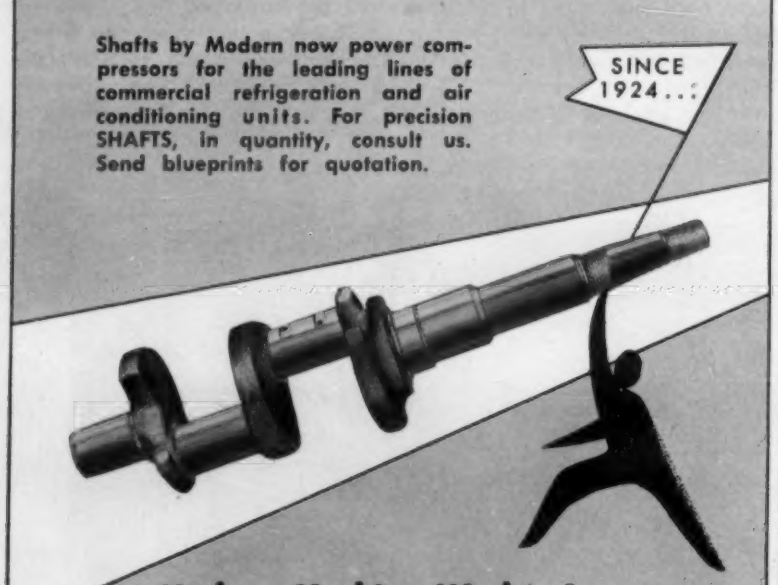
When the component is used as material in the production of an article, whether taxable or not, the maker can apply for the refund or credit, IRS pointed out.

As examples, it includes refrigeration components and radio or television components as items on which overpayments may be refunded to manufacturers who buy the parts for inclusion in products they make.

SHAFTS by MODERN

Shafts by Modern now power compressors for the leading lines of commercial refrigeration and air conditioning units. For precision SHAFTS, in quantity, consult us. Send blueprints for quotation.

SINCE 1924...



Modern Machine Works, Inc.
Pioneers in Shaft Manufacture
5354 S. KIRKWOOD AVENUE CUDAHY, WISCONSIN

Duracron Enamel Offers Resistance to Heat, Salt, Detergents

PITTSBURGH—A new tough, durable baking enamel that is easy to apply and in many instances requires only one coat, has been developed at the new Springdale Research Center of Pittsburgh Plate Glass Co. An entirely new type of coating, claimed to be especially promising for the air conditioning appliance field, the product is said to look and perform more like porcelain than any other known organic finish now available.

DISPLAY PANEL shows Duracron's resistance to three deteriorating factors as compared to two other types of enamel.

The new family of enamels is based on a completely new and unique series of thermosetting acrylic resins which are of a basically new chemical composition.

A radical departure from baking enamels now in use, the new enamels, to be known as "Duracron," are particularly adapted to the finishing of air conditioning units, refrigerators, home laundry equipment, it is said.

Among principal characteristics claimed are outstanding toughness, mar resistance, durability, and exceptional adhesion to various metal surfaces and primers.

Company officials say that comparative tests made with alkyd-melamine enamels show that Duracron provides considerable improvement in gloss retention on overbake, chemical and detergent resistance, humidity and salt spray, corrosion and film form corrosion resistance, grease and stain resistance, impact resistance, flexibility, hardness, and mar resistance.

COLOR AND GLOSS retention properties of Duracron (right) are shown in comparison with coconut alkyd (left) on space heater given one hour overbake at 450° F.

Duracron enamels will be furnished in a complete range of colors. Price is slightly higher per gallon than for ordinary baking enamels, but cost will be considerably lower for many applications because only a single coat is needed, it is claimed. Where a second coat is desired, the product requires no sanding or roughing of surfaces between coats.

Duracron enamels are based on resins which are cut in alcohol-hydrocarbon solvent mixtures, and can be reduced with xylol or other aromatic hydrocarbons for spray application. They are limited to applications where they can be baked at a minimum of 350° F. for 20 to 30 minutes or this equivalent at lower temperatures.

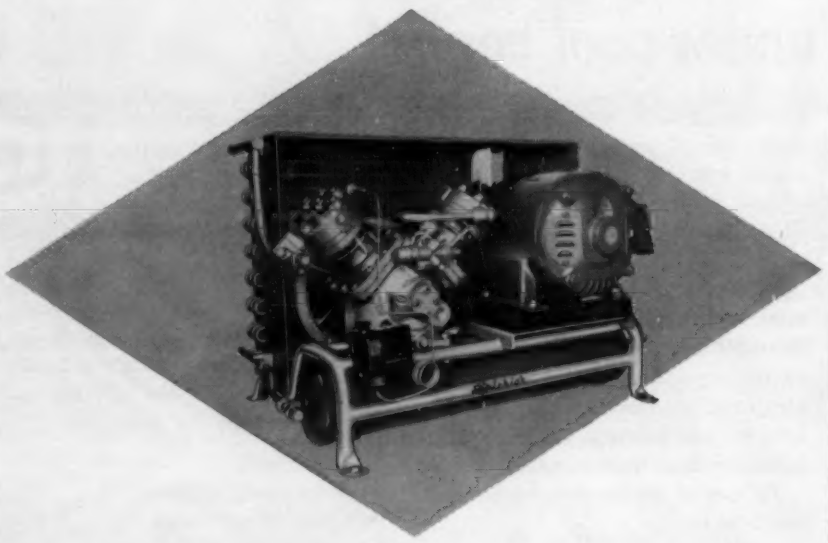
Up to the present time most of the development efforts have been directed toward finishes for household appliances, air conditioning equipment, and electrical equipment, where in many cases, one coat of Duracron will do the job of present two coat systems.

Coatings of this type have been applied by conventional techniques, such as suction and pressure feed spraying, hot spraying, and Ramsburg electrostatic spraying. The Duracron enamels are well suited for hot spray application and films of 1.5 to 2.0 mils have been applied in a single pass.

The amount of flash-off time required before coated objects are placed in the oven will vary with the type of baking equipment employed. Where very fast heat-up time is a characteristic of the oven, it is desirable to have approximately a 10-minute flash-off period, however, where there is some lag in the oven obtaining maximum heat, a reduced flash-off period may be employed.

The Duracron thermosetting acrylic resins used in the enamels were developed by a research group working under Dr. H. L. Gerhart, director of research for Pittsburgh Plate Glass Co.'s paint division. Dr. R. M. Christenson is credited with synthesis of the resin components.

LEHIGH BLU-COLD CONDENSING UNITS
lead in
ADAPT-ability
DEPEND-ability
FLEX-ability
SERVICE-ability



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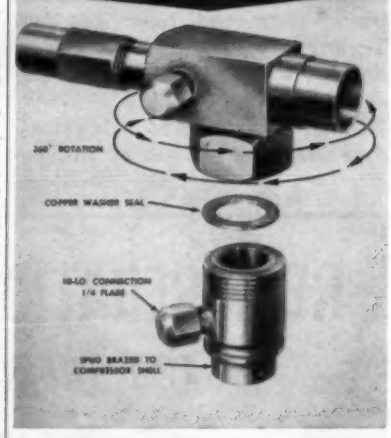
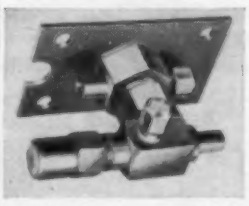
It's NEW
PRIMORE ROTALOCK SPUD VALVE



...designed for Flexibility

This new break-away type spud valve is engineered for compressors used for remote air cooled residential systems. It has a new built-in mechanical rotating connector that allows the valve to be rotated a full 360°. This new feature permits the valve to be placed in a direct line with suction or discharge tubing for easier, more efficient connection . . . permits instant compressor replacement in the field. Available in all standard sizes.



New Rotalock Valve also available with mounting bracket as shown.

Write for FREE Catalog giving pertinent data and details.

Primore Sales, inc.,
310 National Bank Building
Adrian, Michigan

REFRIGERATION:
Sales • Designing • Engineering

For more information about products advertised on this page use Information Center, page 31.

Pacific Metals To Build Office, Open Warehouse In San Francisco

SAN FRANCISCO — Pacific Metals Co., Ltd., has purchased huge warehouse facilities and will build a new modern one-story head office building.

Pacific Metals' Refrigeration Div. is a wholesaler and distributor of refrigeration and air conditioning equipment and supplies.

"We are confident the San Francisco Bay Area will continue to have tremendous growth," Pacific Metals President Walter Schroeder said when he revealed purchase of a 10-year-old warehouse and other property at Third and Mariposa Sts. for $1,250,000 from Bethlehem Pacific Coast Steel Corp.

The new location was selected because of its proximity to the planned Embarcadero Freeway which will give easy access to Marin county via the Golden Gate bridge, as well as nearness to the proposed Southern Crossing to the East Bay, good rail switching service to spur tracks and parking facilities.

B. E. Watters, vice president in charge of the Refrigeration Div., heads a staff of approximately 30 employes.

The Refrigeration Div. operates at branch warehouses in Los Angeles and Salt Lake City, and at district offices in San Diego and Phoenix, Ariz.

The Refrigeration Div. staff includes two engineers at San Francisco, and two engineers at Los Angeles.

The property is an industrial site having frontage on Third St. and Mariposa St.

Now Representing...

Halstead & Mitchell — J. W. Cherry Co. (Shreveport, La.) has been named sales representative in northern Louisiana, eastern Texas, and southern Arkansas.

Carrier Corp.—Seven new manufacturer's sales representatives have been appointed to handle Carrier's expanded unit heater line: Bryce Byard of Harry Wright Jr. & Associates, Cincinnati; Richard C. Nye of Harry Wright Jr. & Associates, Marietta, Ohio; Mecha-line Co., Oklahoma City; Frontier Engineering Services Co., Salt Lake City; Jim Marshall Engineered Sales Service, San Antonio; R. Dykstra & Co., Grand Rapids, Mich.; and Paul N. Stack Sales Co., Charlotte, N. C. These sales outlets will also handle the company's heating and ventilating equipment.

Westinghouse Electric Corp.—Reader's Wholesale Distributors, Inc., Houston, Texas, has been franchised to represent the company in the 26-county Houston area. Reader will carry Westinghouse's full line of consumer products. The firm replaced a Westinghouse Electric Supply Co. (WESCO) branch.

American Automatic Ice Machine Co.—Additional distributors appointed are: J. M. Oberc of Detroit; James E. Clow & Sons, Inc., Chicago; Proie Bros. of Pittsburgh; Aetna Supply Co., New York City; Standard Supply Co. of Worcester, Mass.; Superior Supply of Wichita, Kan.; White Refrigeration of Des Moines, Iowa; Henry V. Dick Co. (five branches in the Carolinas and Georgia); Central Supply Co., Indianapolis; and Hasco, Inc. of Greensboro, N. C. (three branches in North Carolina).

Buensod-Stacey, Inc.—First appointments of sales representatives as part of a national network to supply consulting engineers, architects, builders, and contractors with dual-duct air conditioning equipment were announced by the firm. Those named include: Air Equipment Distributors of Wisconsin, Milwaukee; Air Handling Products Co., Toledo; Air Products Equipment Co., Chicago; D. S. Anderson Co., St. Louis; E. J. Baker Co., Minneapolis; H. W. Baker Co., San Francisco; Bratton Sales Engineers, Birmingham, Ala.; Cooling & Heating Engineers, Los Angeles; Crawley-Gorbandt Co., Atlanta; Frey Equipment Co., Dayton; I. M. Golan Co., Fort Worth, Texas; Leonard F. Luchner, Boston; James R. McQuaide, Philadelphia; George E. Mead Co., Seattle; D. C. Murphy Co., Des Moines, Iowa; Paller Engineering Co., Indianapolis; J. W. Snyder, Cincinnati; and Robert E. Mason & Co., Charlotte, N. C.

Aljon Mfg. Co., Inc.—Appointed Associated Sales Engineers, Washington, D. C., as sales representative for "Al-Cor-Jac" corrugated aluminum jacketing for air conditioning, heating, and piping service, in Maryland, D. C., Virginia, the Carolinas, and Tennessee.

Furnas Electric Co.—Rocke International Corp. has been named export sales division by Furnas. Rocke, of New York City, will sell abroad the entire Furnas line of motor controls through its 15 branches and affiliates.

General Electric Co.—Refrigeration Distributors Corp. has been named wholesale distributor for G-E packaged air conditioning units in the Denver trading area.

Brown-Rogers-Dixson Co. (Winston-Salem, N. C.)—This firm announced it has been named North and South Carolina distributor for Philco and Bendix appliances, except in Winston-Salem area.

O. A. Sutton Corp.—Appointment of Flarapco, Inc., Miami, Fla., as distributor for "Vornado" residential and auto air conditioners has been announced by Sutton. Flarapco, which has branches in Tampa and Jacksonville, Fla., has set up two separate sales organizations to handle the different systems. George Gray will serve as auto air conditioner sales manager for the firm; L. R. Bickley, general sales manager, will head residential systems. Frank Jenkins has been assigned assistant sales chief for both divisions. Auto air conditioners will be sold through selected appliance dealers, tire companies, and auto dealers.

Mitchell Mfg. Co.—Straus-Frank Co., Dallas, has been named distributor of Mitchell room air conditioners in Dallas and north Texas area. S-F was a Chrysler Airtemp room unit distributor.

Carbonic Dispenser, Inc.—Thomas J. Raftican has been appointed Florida sales representative by Carbonic for its beverage dispensing equipment. Raftican will live in Daytona Beach. He was formerly associated with Hamburg Bros. of Pittsburgh.

Admiral Corp.—Reines Distributors, Inc., Albany, N. Y., has been named distributor for Admiral products in the Albany area. Dorrance Supply Co., Inc., Youngstown, Ohio, has been appointed Admiral distributor in the Youngstown territory. It formerly was covered by the Kane Co.

HERE'S HANDY, EXTRA REFRIGERATION SPACE AT LOW, LOW COST

...THE NEW KOOL'KLOSET

Again, La Crosse engineering has swept the field with this low cost answer to the demand for *extra refrigeration space*. The KOOL 'KLOSET walk-in, reach-in cabinet is ideal for all 'round storage of countless items. The KOOL 'KLOSET features the *self-contained refrigeration system*, grey baked enamel exterior, 3" spun glass insulation, rugged hardware with inside release, sizes 34" wide and 62" wide.

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tells how

ANEMOTHERM Air Meter

saves in balancing air conditioning, heating and ventilating systems

The Model 60 Anemotherm Air Meter, developed by the Anemostat Corporation of America, gives you — *in one convenient instrument* — a simple, rapid method of balancing and checking any air system. It puts at your fingertips, by means of *color-coded* pushbuttons, air velocity, air temperature and static pressure. • The Anemotherm Air Meter pays for itself through time saved on only one major job. **Write for Bulletin 55 giving all the facts.**

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Refrigeration Research Foundation Says

Sales Effort Could Bring Big Rise In Refrigerated Dried Fruit, Nut Storage

COLORADO SPRINGS, Colo. —Increased need for refrigeration of nuts and dried fruit seems indicated by the fact that the recently-published pesticide tolerances established by the U. S. Food & Drug Administration did not include tolerance for certain post harvest fumigants used for years, according to the Refrigeration Research Foundation.

The foundation said:

"The interpretation of this failure to include seems to mean that it will be illegal to use any insecticide unless it is specifically indicated for a particular fruit or vegetable.

"Producers and users of nuts and dried fruit may thus be forced to seek other methods of protection for their products from insect infestation.

"Since refrigeration is the safest and surest way to protect these products from insects, as well as to maintain product quality, it seems that a little sales effort by our industry could well result in a considerable increase in these products going into refrigerated storage."

Market Shows Chilled Beef

GRAND RAPIDS, Mich. — A glass-faced cooler displays sides of beef to customers at Eberhard's 10th market here, which opened recently. Both meat and produce packaging can be seen.

Paul Reed is on an extended vacation trip, getting a well-deserved rest from his many activities in the air conditioning and refrigeration field.

During this vacation period, his "Refrigeration Problems and Their Solution" column will appear at irregular intervals in Air Conditioning & Refrigeration News.

Kramer Reorganizes N. Y. Sales Office, Names Peterson Head

TRENTON, N. J.—S. Charles Segal, general sales manager of Kramer Trenton Co. here, has announced a complete reorganization of the New York City sales office.

H. P. Peterson

An office has been set up at 260 West Broadway (telephone Cortland 7-8442) where complete sales and engineering service is available to the complete metropolitan area, including northern New Jersey.

The operation will be under the supervision of Hans P. Peterson, who "has arranged an adequate inside staff to give quick and efficient engineering and sales service in response to telephone and letter inquiries," it was stated. "The size of the outside sales force is being increased to insure better field service."

Peterson has been with the Kramer sales organization for approximately two years. He is a member of the American Society of Refrigerating Engineers and a registered professional engineer holding patents on a number of refrigeration applications.

Seattle's Refrigeration Inspection Law Effective

SEATTLE — Mayor Clinton has signed the ordinance providing for annual inspection of refrigeration systems with over 150 lbs. of refrigerant in the city of Seattle.

The ordinance gives inspection equal to the pressure vessel statute of the state of Washington, according to Mervin S. Schmitz, refrigeration inspector for the Div. of Sanitation of the Dept. of Public Health in Seattle, and will make it unnecessary for the state to inspect these units.

Los Angeles, San Diego Compromise

Butchers To Let Markets Sell Meats Pre-Packed Fresh-Frozen by Packers

LOS ANGELES — Unchallenged supermarket merchandising of fresh-frozen meats produced by major packers and apparent settlement of union jurisdictional friction resulted from a new work contract signed recently by five meat cutter locals and the Food Employers Council.

Five locals of the Amalgamated Meat Cutters and Butcher Workmen of North America compromised on original proposals that all meats, fresh and frozen, sold in supermarkets must be cut, prepared, and fabricated on the premises.

Strict adherence to such a clause would have made it impossible to sell fresh-frozen prepack meats in this area.

The new contract stipulates that all fresh unfrozen meats shall be cut, prepared, and fabricated on the premises. An exception is made for beef, veal, lamb, and pork in carcass form, which may be broken down into primal cuts, such as rounds and ribs, off the premises, but retail cuts must be made on the premises.

Regarding frozen meats and other items such as ground beef, fowl, fish, or rabbits and smoked meats, the contract says they need not be cut on the premises, but they must be handled, displayed, dispensed, and offered for sale by members of unions which so handled such items prior to August, 1955.

It is believed the status quo of selling frozen meats will be retained in this area as a result of the new local pact. Where some markets sold frozen meats via retail clerks in August, 1955, they will continue to do so. Where meat cutters sold such items, they will retain jurisdiction.

A parallel contract following the general provisions of this agreement with meat cutters was signed in San Diego.

National Tea To Add 34 New Stores In Midwest

MILWAUKEE—About 34 new markets will be added to the present 66 in the branch territory of Wisconsin and Upper Michigan by National Tea Co., it was announced here recently. Nearly 50% of the expansion will be in Milwaukee and Madison suburbs, a spokesman said.

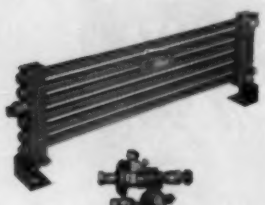
HIGHSIDE or LOWSIDE

heat-x Refrigeration and Air Conditioning Products

mean a better installation

The Heat-X line includes components for refrigeration and air conditioning systems as well as completely "packaged", ready-to-operate units . . . all in a wide range of sizes and capacities to fill a broad variety of contractors' needs.

All Heat-X equipment is soundly constructed, conservatively rated and features the most advanced engineering design.

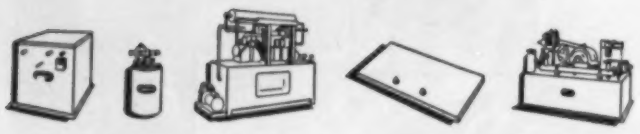


'CIC' CONDENSERS An efficient water-cooled refrigerant condenser. Entire water circuit is of non-ferrous construction with cleanable tubes. Inner-fins in refrigerant tubes insure high heat transfer . . . occupy minimum space. FROM ⅓—15HP

CAST COOLERS Refrigerant and liquid circuits are cast in solid block of aluminum, eliminating freeze-up problem . . . offering advantages of "hold-over" effect of cooled aluminum mass. FROM 15—65 GPH (@ 70°)

HEAT INTERCHANGERS Cast aluminum heat interchangers (¼—10HP) and heavy duty heat interchangers (7½—100HP) feature patented Inner-Fin construction in suction line. [Units feature low freon charge and no oil trapping.

'OSM' OIL SEPARATOR MUFFLERS These units solve two problems common to refrigeration systems: silencing of system noises and separation of all entrained oil. No floats to bang open or stick closed. 'OSM' units are equipped with a *positive-action* Velocity Pressure Mechanism, 1-75 TONS exclusive with Heat-X.



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AN OUTSTANDING RESIDENTIAL AIR CONDITIONER SALES OPPORTUNITY WITH A QUARTER OF A BILLION DOLLAR COMPANY

This sales opportunity results from company separating central air conditioning from room air conditioner sales. Should have knowledge of packaged air conditioner business, engineering background and proven sales ability.

This is a complete, competitively-priced line for both residential and commercial markets. Dealer program includes advertising and financing program.

Many key markets still available. Write, giving full details of your background and experience. All replies treated in confidence. Our representatives know of this advertisement. BOX A5687, Air Conditioning & Refrigeration News.

Lonergan Offers 3 Room Unit Lines--

(Concluded from Page 1, Col. 5)

firm is offering an $8 to $11 saving at dealer cost for pre-season purchasing, available as long as pre-season air conditioners are in inventory.

Service stations have been expanded from 11 to 17, giving complete national coverage, the company said. Warehouses have been increased from three to eight for rapid in-season dealer protection.

Two new dehumidifiers are available, both ⅕-hp. portable units with a new refrigeration system claimed to offer high water removal.

'PROFILE' UNITS FOR THROUGH-THE-WALL USE

Available in four capacities, the 1957 Profile room air conditioners are ideal for through-the-wall installation because the drawer-type chassis permits servicing without removing the cabinet and breaking seals.

Features include "Far-Reach" cooling, automatic thermostat control, fresh air in, room air out with or without cooling, double-filter air purification, four-way directional "no draft" grilles, two-speed operation, and hidden control panel.

Styled in two-tone gray and sand with gold highlights, the Profile units come in ¾-hp., 1½-amp, 115 v, plug-in; 1-hp., 115 v; 1-hp., 230 v; and 1½-hp., 230 v. capacities.

Lower priced Coolerator Super room units are available in five models in ¾-hp. and 1-hp. capacities, including a ¾-hp., 7½-amp, 115 v. plug-in model and a 1-hp., 115 v. unit. Three of the five models have automatic thermostat control. Other features are Far-Reach cooling, pushbutton, two-speed control, drawer-type chassis, and two-tone gray and sand styling with gold highlights.

EXPANDS 'CUSTOM' LINE

Lonergan offers an expanded line of "entirely new" Custom

ADVANCED conventional "Custom" room air conditioner introduced for 1957 by Lonergan Coolerator.

conventional room air conditioners for 1957, the firm noted. Five models range from ¾-hp., 7½-amp plug-in to full 2-hp., 230 v. capacities, including a 1-hp., 115 v. unit.

Features of the adjustable or flush mounted series include Far-Reach cooling, automatic thermostat control, fresh air in or room air out, with or without cooling, four-way directional discharge grilles, two-speed operation, extra filter, drawer-type chassis, and two-tone gray and sand styling with gold high lights, it was explained.

In addition to the 1957 "Super" model of dehumidifier, Coolerator now offers a completely automatic "Custom" unit with humidistat that is said to turn the unit on and off as humidity changes. Humidistat dial, located on top, can be set for any desired degree of dryness, the company said.

Room air conditioners prices:

Advanced	Conventional	Super Series
		List
74CS5	¾ hp., 7½ amp.*	$319.95
74CS5T	¾ hp., 7½ amp.	329.95
100CS5	1 hp., 115 v.*	319.95
100CS5T	1 hp., 115 v.	329.95
102CSOT	1 hp., 230 v.	329.95

*Promotional

Advanced	Convential	Custom Series
74CD5	¾ hp., 7½ amp.	349.95
100CD5	1-hp., 115 v.	349.95
101CD0	1 hp., 230 v.	349.95
200CD0	2 hp., 230 v.	499.95
200CD8	2 hp., 208 v.	499.95
	Profile	
7 WCD5	¾ hp., 7½ amp., 115 v.	349.95
1 WCD0	1 hp., 115 v.	349.95
1 WCD0	1 hp., 230 v.	349.95
15 WCD0	1½ hp., 230 v.	399.95

Frigidaire 'Sheer Look' Line--

(Concluded from Page 1, Col. 2)

ties from ½ to 1½ hp. are included in a "Super" and "Deluxe" series.

New "sheer look" styling and two-tone beige color make these room units "compatible with nearly any architectural design and decorative scheme," it was stated.

Frigidaire's new Deluxe line is available in ¾, 1, and 1½-hp. sizes. Two special Deluxe units are available—a ¾-hp. model drawing 7½ amperes of running current and a 1-hp. unit using 12 amperes of current.

'SUPER' ADAPTED FOR CASEMENTS

The new Super series features a 1-hp. model and a 1½-hp. unit especially adaptable to casement window application. Only one pane of glass as small as 10⅞ in. by 14¾ in. need be removed to slip this unit into the window frame, it was pointed out.

All other 1957 Frigidaire room air conditioners slide into metal shells which install in the window or through the wall. Removal for cleaning or service

TWO-TONE beige color and "sheer look" styling highlight Frigidaire's 1957 room air conditioners.

is equally simple, Lehman explained.

Comfort control thermostat and "magic guide" air flow are standard features on all new Frigidaire room units. In addition, Deluxe models and the ½-hp. Super unit provide fresh air recirculation. Deluxe models also feature a stale air exhaust.

It was pointed out that the 1957 room air conditioners embody simplified operation with a two-knob arrangement.

"'Simplified comfort' is obtainable with only one setting of the condition selector for cooling or ventilation," it was stated. "A built-in comfort selector automatically regulates operation of the unit to maintain desired temperature.

"Frigidaire's 'magic guide' air control eliminates the need for spring panels. Adjustable vertical grilles and horizontal shutters of attractive brushed aluminum controlled by a single knob direct "draftless" conditioned air to any part of the room, even when the unit is set in a corner window.

HAVE ANGLE-FLOW AIR SILENCER

"To assure quiet operation, the new Frigidaire units employ an angle-flow air silencer with full insulation and deep-set centrifugal fan. A triple-tube cooling coil pulls temperature down quicker on even the hottest days."

Full-width disposable filters are said to be easily removed. "For simple replacement, the filter slips in and out with a flick of the fingers," it was noted.

Heart of Frigidaire's 1957 room units "is a compressor with high power factors."

SO HALSTEAD & MITCHELL ENGINEERS SAID:

"LET'S STOP COOLING TOWER RUSTING and ROTTING!"

Halstead & Mitchell

BESSEMER BUILDING, PITTSBURGH 22, PA.

RUSTING

There's no "one-coat" protection which will stop cooling tower rust. Needed are super-strength bonding of protection to metal, toughness, inertness, flexibility, and a water-tight barrier. Only by Halstead & Mitchell are you offered the 3-coat protection of Vinsynite, Vinyl Zinc and chlorinated rubber — the most advanced protection ever devised to prevent cooling tower steel from rusting.

ROTTING

We do more than praise the long life of wood used in our wetted decks —we are the *only* manufacturer who offers a 20-Year Guarantee on wetted deck wood against rotting or attack by fungus.

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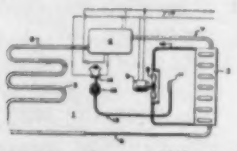
PATENTS

Week of August 21

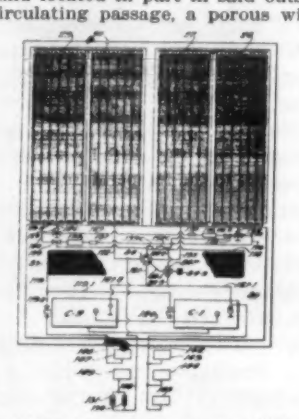
2,759,333. AIR CONDITIONING APPARATUS. Leonard W. Atchison, Louisville, Ky., assignor to General Electric Co., a corporation of New York. Application April 4, 1955, Serial No. 499,041. 2 Claims. (Cl. 62—3.)



1. Apparatus for conditioning an enclosure comprising a refrigerating system including an evaporator, a condenser and a compressing unit, said compressing unit including a compressor, a driving motor and a sealed casing enclosing said compressor and said motor, the interior of said casing being in the path of refrigerant flow through said system whereby said refrigerant flow acts as a motor coolant, fan means for blowing a stream of air over said evaporator and into said enclosure thereby to condition said enclosure, thermostatic means for sensing the temperature of said enclosure, and means for controlling the capacity of said refrigerating system to maintain a desired temperature in said enclosure, said means including a valve positioned within said casing for controlling the intake flow to said compressor, said valve being arranged in the flow path through said casing and said compressor whereby refrigerant remains in said casing for motor cooling when said valve is closed, a bleed bypassing said valve to provide a small oil purging flow of refrigerant through said compressor when said valve is closed thereby to prevent knocking in the cylinder of said compressor, and a valve operator controlled by said thermostatic means for adjusting said valve in response to the temperature of said enclosure, thereby to control the refrigerant flow through said compressor and the capacity of said system.

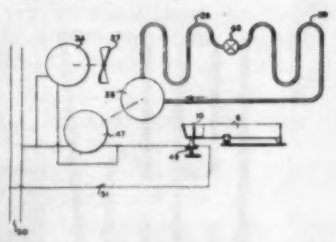
2,759,334. AIR-TO-AIR HEAT PUMP APPARATUS. Russell H. Burgess, Chicago, Ill., assignor to Drying Systems, Inc., Chicago, Ill., a corporation of Illinois. Application Feb. 15, 1954, Serial No. 410,160. 5 Claims. (Cl. 62—4.)

5. In an air to air heat pump apparatus having inside and outside air-circulating passages and a refrigerating system with heat exchangers in said outside and inside air-circulating passages and located in part in said outside air-circulating passage, a common sump located in part within a portion of said inside air circulating passage and located in part in said outside air-circulating passage, a porous wick-



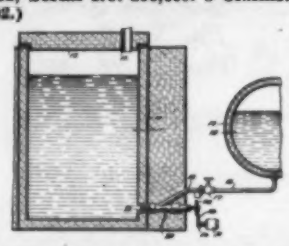
like member having one portion thereof disposed in said sump and another portion thereof extending for a substantial distance into said inside air passage to afford a substantial area within said inside air passage from which moisture may be evaporated by air flowing in said inside air passage, drain pans located below said heat exchangers in both of said air passages and arranged to slope toward and to drain directly into said sump, float controlled water supply means operable to maintain a predetermined water level in said sump, an overflow for said sump, a spray nozzle located over a heat exchanger in said outside air passage, a pump operable to feed water from said sump to said spray to render said last mentioned heat exchanger operative as an evaporative condenser, sensing means operable to sense the pressure of refrigerant supplied to said system, means governed by said sensing means to control said pump and means governed by said control means to disable said pump when said control means are in said winter control position.

2,759,335. DEHUMIDIFYING APPARATUS. Edmund E. Weschler, Jr., Erie, Pa., assignor to General Electric Co., a corporation of New York. Application Dec. 6, 1953, Serial No. 398,477. 1 Claim. (Cl. 62—4.)



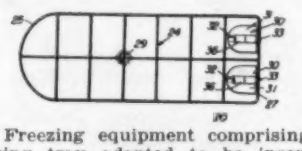
In refrigerating apparatus, a refrigerating system including a compressor, a condenser, and an evaporator, a motor for driving said compressor, a circuit for energizing said motor, a receptacle having a bottom and upstanding sides, means pivotally supporting said receptacle to allow tilting of said receptacle between first and second positions, a barrier mounted in said receptacle and extending upwardly from the bottom thereof to divide said receptacle into first and second compartments, with the top of said barrier being lower than the edges of said sides, said barrier being positioned relative to said pivot means to cause said receptacle to be normally weighted to said first position when liquid is contained in said first compartment only and to be tilted to said second position upon the overflow of liquid from said first compartment to said second compartment across said barrier, said receptacle being positioned to collect the condensate dripping from said evaporator in said first compartment, and normally closed switch means positioned below the barrier end of said receptacle and actuated by the movement of said receptacle to said second position for opening said motor circuit, whereby said refrigerating system is inactivated upon a sufficient amount of condensate filling said first compartment that said condensate overflows said barrier into said second compartment.

2,759,336. PRESSURE FLUID RELEASE DEVICE. Fred C. Seefeldt, Tenafly, N. J., assignor to The Liquid Carbonic Corp., Chicago, Ill., a corporation of Delaware. Application July 1, 1952, Serial No. 296,609. 3 Claims. (Cl. 62—92.)



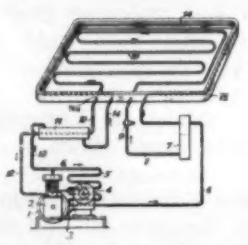
1. In a refrigeration system in which a liquid refrigerant is chilled by contact with expanded CO_2 and in which the refrigerant is contained within an insulated vessel, a nozzle secured within an opening in the side wall of said vessel and having its discharge port communicating with the refrigerant in said vessel, a conduit leading from a source of liquid CO_2 to the bore of said nozzle, means for controlling the flow of CO_2 in said bore, a movable member adjacent the discharge portion of said nozzle, and power means for moving said member to break crystals forming within the bore of said nozzle adjacent said discharge portion.

2,759,338. FREEZING TRAY. Edward O. Kraepelin, Los Angeles, Calif. Application Nov. 13, 1952, Serial No. 320,223. 10 Claims. (Cl. 62—108.5.)



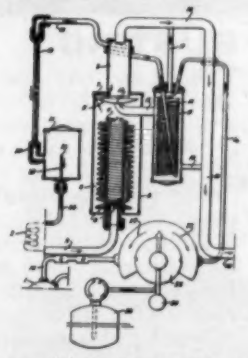
1. Freezing equipment comprising a freezing tray adapted to be inserted into a freezing compartment of a refrigerator, said tray having one straight end and the opposite end constructed as an arcuately shaped ramp provided with a rim and arranged to facilitate individual discharge of its loosened contents longitudinally thereof, said tray having a single projection disposed forwardly center of its bottom constructed and arranged to pivotally free said tray from a frozen supporting surface by pressure applied to said arcuate rim.

2,759,339. REFRIGERATED PLATE, WITH FROST PREVENTION. Adolphe Kundert, Zurich, Switzerland. Application Sept. 21, 1953, Serial No. 381,204. Claims priority, application Switzerland. Sept. 23, 1952. 2 Claims. (Cl. 62—117.55.)



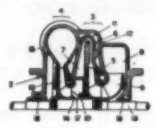
2. A refrigerating plant, comprising a cooling plate, a cooling worm provided below said cooling plate in heat-conducting relation therewith and adapted to contain cooling fluid for cooling said plate, a frame bordering said plate, conduit means associated with said frame in heat-conducting relation, a cooling unit comprising a compressor, a condenser, a collector, an expansion valve, conduit means connecting said compressor to said conduit in said frame and adapted to feed hot cooling fluid leaving the compressor through said conduit in the frame for heating of the latter, conduit means connecting said conduit in the frame with the condensor for condensation of the hot cooling fluid in gaseous state, conduit means for feeding said condensed cooling liquid to said collector and from the latter to said expansion valve for expansion of said condensed cooling fluid, and further conduit means for feeding said expanded cooling fluid through said cooling worm and further conduit means connecting said cooling worm with the inlet of the compressor.

2,759,340. COMPRESSION-OPERATED COOLING PLANT. Auguste Camille Beslin, Paris, France.



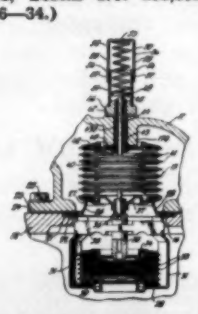
1. In a refrigeration system comprising, in combination, a compressor, a condenser and an evaporator, feed conduit means passing liquid refrigerant from the condenser to the evaporator, and return conduit means for passing vapor from the evaporator to the compressor; an expansion regulator arrangement interposed in said return conduit means, the latter thus being divided into two parts, said arrangement consisting of a receptacle containing a reserve of liquid refrigerant and being traversed at its base by the first of said parts of said return conduit means which first part brings vapor from the evaporator, said first part of said return conduit means branching into the interior of said receptacle as a series of conduits through which passes all of the vapor coming from the evaporator, and the outer surface of which last-mentioned conduits are immersed in the reserve of liquid refrigerant and which last-mentioned conduits have openings within the upper portion of said receptacle above the level of said reserve of liquid refrigerant, the upper part of said receptacle being in communication with the second of said parts of said return conduit in which second part the vapor moves toward the compressor.

2,759,662. CENTRIFUGAL COMPRESSORS. Willis H. Carrier, Syracuse, N. Y., assignor to Carrier Corp., Syracuse, N. Y., a corporation of Delaware. Application April 26, 1950, Serial No. 158,275. 3 Claims. (Cl. 230—130.)



1. In a centrifugal compressor, the combination of a preceding stage including an impeller having a cover, a shroud and a plurality of blades forming passages through the impeller, and an open diffuser surrounding the impeller, and final stage including an impeller having a cover, a shroud and a plurality of blades forming passages through the impeller, and a volute, the impellers having approximately the same diameters, the passage area normal to the radial component of gas flow of the preceding stage impeller decreasing as the radius of the impeller increases, while the angle between the blade and the tangential direction increases as the radius of the impeller increases, thereby giving a relatively high radial component of velocity of gas leaving the impeller, the passage area for the final stage impeller for at least the outer portion of the passage normal to the radial component of gas flow increasing as the radius increases while the angle between the blade and the tangential direction decreases with increasing radius over approximately the last half of the length of the passageway thereby providing a relatively low radial component of velocity of gas leaving the impeller.

2,759,673. THERMOSTATIC VALVES. Harold A. Reynolds and Adolf Schwarz, Lockport, N. Y., assignors to General Motors Corp., Detroit, Mich., a corporation of Delaware. Application Oct. 26, 1951, Serial No. 253,352. 5 Claims. (Cl. 236—34.)



1. An adjustable thermostat comprising a coolant fitting, a valve seat and a valve element seatable thereon arranged to control coolant flow through said fitting, a power bellows and a compensating bellows operatively associated with said valve element, a hollow stem extending through a wall of said fitting and axially from said compensating bellows venting the same to atmosphere, a pressure rod slidably extending through said hollow stem and compensating bellows with one end operatively connected with the said valve element, a cap vented to atmosphere arranged axially to receive the other end of said pressure rod, a spring under compression in said cap adapted to apply closing pressure on said valve element through said pressure rod whereby to cause the said power bellows to unseat said valve element at a higher temperature than that for which it is charged, and means associated with said cap for retaining the latter in predetermined positions with relation to said fitting.

(To Be Continued)

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" $7.50 per insertion. Limit 50 words. 15¢ per word over 50.

RATES for all other classifications $10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other address by actual word count. Please send payment with order.

POSITIONS WANTED

MANUFACTURER'S REPRESENTATIVE will give aggressive sales coverage to one additional quality product line. Regularly cover leading plumbing and heating contractors, jobbers, mechanical engineers, and air conditioning O.E.M. in Philadelphia—Delaware Valley—Eastern Pennsylvania territory. All replies acknowledged in confidence. T. N. TWAY, Room #512 Jefferson Building, 1015 Chestnut Street, Philadelphia 7, Pennsylvania.

SERVICE MANAGER or field service representative. I am 28 years old, have ability, aptitude, experience and drive. Prefer St. Louis area. Complete resume and references furnished upon request. BOX A5717, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

TERRITORIES AVAILABLE for experienced salesmen of air conditioning and heating equipment. Write W. B. LONGSHORE, Box 60, Gadsden, Alabama.

WANTED: SALES manager experienced in condenser sales to large refrigeration manufacturers. Bona fide position with top salary for top producer. MERCURY MANUFACTURING CORP., 45 Brown St., Buffalo 11, N. Y. Phone MAdison 0902.

AIR CONDITIONING and heating engineer—permanent for inside detail work or outside sales engineering. SQUARE DEAL REFRIGERATION, INC., 10163 Gratiot, Detroit 13, Michigan.

WHOLESALE SALESMAN. Carrier distributor, franchised since 1940, has immediate opening for capable dealer man in greater Detroit area. Must have successful sales background and be thoroughly experienced in commercial and residential air conditioning. Man selected will work in established territory calling on old accounts and opening new ones. This is an unusual opportunity offering a very attractive future to the right man. 30—45. Car furnished. Salary plus incentive. Replies confidential. TEMPERATURE CONTROL, INC., 275 E. Milwaukee, Detroit.

SERVICE MANAGER: Progressive Midwestern manufacturer of air conditioning and refrigeration equipment needs an alert, enthusiastic, sales-minded service manager who has proven experience and knowledge in commercial and industrial equipment. This position is an outstanding opportunity for the right person. Write, giving full details of your background and experience to BOX A5707, Air Conditioning & Refrigeration News. All replies treated in confidence.

AIR CONDITIONING sales engineer—M.E. degree or equivalent with sales experience for nationally-known manufacturer of compressors, condensing units, water chillers and cooling towers 5 to 60 tons. Sold through manufacturers agents to contractors. Traveling required. Profit-sharing plan. Write fully as to experience, education, salary earned and desired, etc. to BOX A5710, Air Conditioning & Refrigeration News.

MANUFACTURER'S REPRESENTATIVE wanted: Nationally known manufacturer of the most complete line of cooling towers. Have openings for representation in the following states; Georgia, Northern Florida, Kentucky, Virginia, Southern Texas, Wisconsin, Minnesota, North & South Dakota, and Montana. BOX A5716, Air Conditioning & Refrigeration News.

EXPERIENCED COMMERCIAL refrigeration field man for New York, Pennsylvania, Michigan or Indiana. Draw and expenses or straight commission. Established manufacturer. Must be able to sell top quality. Inquiries confidential. Write BOX A5718, Air Conditioning & Refrigeration News.

WANTED—AIR conditioning sales engineer for outstanding sales opportunity with AAA-1 manufacturer of air conditioning equipment. You will be selling a well-known, quality line of packaged equipment along with the country's leading franchised distributor line of room air conditioners. You must have a complete knowledge of the air conditioning business, an engineering background and a previously successful sales record. Sales experience to appliance distributors helpful. Sales territory will cover all of Michigan and Indiana and the Western portion of Ohio. Compensation—liberal draw against commission. Our sales representatives know of this ad. Write complete details. BOX A5721, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

NOW AT your local wholesaler guaranteed 20 foot lift new Kesco King Size 1957 automatic condensate water disposal pumps. 3 inches water in tank starts pump. Designed for air conditioners, ice cube bins, drinking fountains. Wholesalers, for 1957 literature, write to KESCO PRODUCTS CORP., Box 84, Springfield Gardens 13, New York.

NAME PLATES and numbered valve tags—Now available your free 1957 catalog showing most complete line of identification plates and tags for air conditioning and refrigeration use. Easy to affix. Low cost. Engineer and code approved. Free samples. Write SETON NAMEPLATE COMPANY, Dept. AC15, 431 West Rock Avenue, New Haven 15, Conn.

DEAD STOCK sale—2 & 3 ton hermetically sealed, water cooled, residential air conditioning units. We are discontinuing these in our line and have approximately 70 units to dispose of at a fraction of new price. Would like to sell entire lot in lump sale. Contact SOUTHWEST MFG. CO. Box 151, Aurora, Mo.

FOR SALE—Air conditioning units from ⅓ ton up to 20 tons. Window units and console units up to 1½ ton, air cooled motors from ¼ h.p. A.C. up to 20 h.p. single phase and three phase. All used and in good condition. Reply BOX A5719, Air Conditioning & Refrigeration News.

MISCELLANEOUS

ATTENTION SERVICEMEN: Send for free circulars and bulletins on refrigeration parts and equipment. Real money saving values: WALTER W. STARR; 2833 Lincoln Avenue, Chicago 13, Illinois.

SALES ENGINEER

Air Conditioning - Refrigeration

Opportunity and interesting work calling on contractors, wholesalers and manufacturers of air conditioning and refrigeration equipment.

Several openings available for the technical graduate or equivalent who has previous experience in the industry and who is between 25 and 32 years of age.

Starting salary based on experience with an incentive system after indoctrination period. All replies will be kept confidentional. Send your resume under personal cover to W. H. Krack, c/o **Sporlan Valve Co., St. Louis 17, Mo.**

For more information about products advertised on this page use Information Center, page 31.

Beginning with the February 4 issue—

Once-a-Month

Special Heating Section

to be regular feature of the NEWS

Air conditioning and refrigeration people are doing more and more heating work. Heating people are getting into air conditioning. And the term, as well as function, of "air conditioning" is coming into its own as treatment of air "so as to control its temperature, humidity, cleanliness, and distribution—."

So by popular demand, AIR CONDITIONING & REFRIGERATION NEWS will provide readers more and more news and information on *all* phases of the business.

The new Heating Section, to appear in the first issue of every month starting February 4, 1957, will serve to concentrate and dramatize news and feature articles on all aspects of heating. Editorially, NEWS readers will be provided a comprehensive view of *what's going on in heating.*

In addition to the once-a-month Special Heating Section, all weekly issues will carry timely news of the field. Hence weekly heating news coverage will continue as an exclusive service of AIR CONDITIONING & REFRIGERATION NEWS.

Heating manufacturers are invited to take advantage of this *new force* in the business. Act now! Plan your advertising for this new Heating Section—get maximum reader interest.

The February 4 issue will provide *double impact.* In addition to kicking off the new Heating Section, it is also the Pre-Show issue for the Heating and Air Conditioning Exposition, Chicago, February 25 through March 1, 1957.

AIR CONDITIONING & REFRIGERATION **NEWS**

The Newspaper of the Industry

ABP

AUDITED PAID CIRCULATION ABC

The newspaper that carries more advertising by far than any other publication in the field.

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- **CHICAGO,** 134 S. LA SALLE ST., FRANKLIN 2-8093, AL SCHILDHAMMER.
- **LOS ANGELES,** 4710 CRENSHAW BLVD., AXMINSTER 2-9501, JUSTIN HANNON.
- **DETROIT,** 450 WEST FORT ST., WOODWARD 2-0924, J. R. SULLIVAN.

ARI Room Unit Rating Results--

(Concluded from Page 1, Col. 3)

ready published ratings of their room units according to ARI test procedures, Jones said, include: Airtemp Div., Chrysler Corp.; Carrier Corp.; Frigidaire Div., General Motors Corp.; General Electric Co.; Hotpoint Co.; Hunter Fan & Ventilating Co., Inc.; Kelvinator Div., American Motors Corp.; O. A. Sutton Corp. (Vornado); Westinghouse Electric Corp.; and York Corp., subsidiary of Borg-Warner Corp.

Those who have given ARI test data and ratings, but have not yet had an opportunity to make them available on specification sheets and other literature are: Birtman Electric Co.; Emerson Electric Mfg. Co.; Friedrich Refrigerators, Inc.; Gibson Refrigerator Co., division of Hupp Corp.; Philco Corp.; Sears Roebuck & Co.

Products of manufacturers who said they would test and rate their room units under the ARI standard constitute almost 90% of the entire U. S. output, Jones declared. While agreeing that cooling capacity is not the only sales feature, or basis of comparison, these manufacturers at the same time recognized the need for establishing some common basis which would provide an understandable measuring stick for the public—a measurement which would dispel confusion which has grown up as a result of rating the capacity of room air conditioners in terms of "tons" and "horsepower," neither of which has a direct relationship to cooling capacity, Jones further commented.

While B.t.u's have been used by some producers in the past, failure to use a uniform standard method of testing and rating has made the several previously used B.t.u. ratings unrealistic and of little value for comparative purposes, according to ARI.

A B.t.u. is the amount of heat required to raise the temperature of 1 lb. of water by 1° at sea level, it was explained. Conversely, a B.t.u. in cooling parlance is the amount of cooling capacity required to lower temperature of 1 lb. of water by 1°. While this definition may not fit in with the average homeowners experience, the fact that he will be able to learn through his dealer and published literature of most manufacturers of the comparative "ARI B.t.u.h. rating," as tested and rated under the ARI standard, will enable him to make his decision on the basis of cooling capacities of the various types, styles, and designs of room air conditioners offered for sale, ARI noted.

York Election, '57 Plans--

(Concluded from Page 1, Col. 5)

"Our plans call for a continuing modernization not only of York's product lines but also of its manufacturing facilities," Ingersoll said.

"Included among York's new products will be heat pumps for domestic application, a larger line of heat pumps for industrial application, and newly designed central heating and air conditioning systems. An extensive line of new industrial and commercial refrigeration products is currently in the final stages of development and testing."

The chairmanship of York has been relinquished to Lauer by Roy C. Ingersoll, who has borne that title in addition to his responsibilities as chairman of the board of Borg-Warner since York Corp. was merged with Borg-Warner in July, 1956.

These actions were taken at a meeting of the York board of directors in Chicago, at which time all other present officers of the York Div. were re-elected.

Haase came to Borg-Warner in January, 1955 from McCray Refrigerator and Palmer Mfg. Co., where he had served as president and general manager for about three years, it was stated.

Lauer's entire business career of almost 46 years has been spent with the York Corp. and its predecessors. His business activities include two terms as president of the Air-Conditioning & Refrigeration Institute.

Lauer, as chairman of the board, will continue at the York Div. and will be consultant and advisor to Haase.

The officers who were re-elected were: J. K. Louden, vice president, manager Commercial Div.; R. K. Serfass, vice president, manager Industrial Div.; R. F. Lauer, vice president engineering and research; J. M. L. Joslin, vice president industrial relations; M. G. Munce, vice president marketing services; Donald M. Magor, vice president and controller; W. F. Lynne, secretary and treasurer; Jay Silar, assistant treasurer; C. W. Fenninger, Jr., assistant secretary; R. H. Dowling, assistant vice president.

NAHB Show--

(Concluded from Page 1, Col. 4)

the three exhibit sites, starting an hour before the exhibits open and continuing an hour after they close, officials disclosed.

Exhibits open at 1 p.m. Sunday, closing at 10 p.m. On succeeding days they open at 9 a.m., closing at 7 p.m. except for the final day when they close at 3 p.m., it was explained by the association.

G-E Increases Prices On Its Clothes Dryers; Other Rises May Follow

LOUISVILLE, Ky. — General Electric Co.'s home laundry department disclosed price increases ranging from 3 to 5% on all 1957 model clothes dryers.

H. B. Miller, general manager of the department, explained, "Manufacturing costs continue to rise. While we try to offset this trend with better production techniques, we cannot absorb cost increases entirely."

New prices apply at factory level only, Miller stressed. However, retailers are expected to boost their prices by a comparable amount.

G-E's action came in the wake of a shutdown of dryer production lines earlier this month "to bring inventories into adjustment."

Trade sources hinted this might be the first of a series of similar increases on all G-E major appliances. Top G-E officials have said several times lately that "electrical product prices are too low."

J. R. Freeman Dies

SPARTANBURG, S. C. — James R. Freeman, president-owner of Freeman Gas & Electric Co., one of the city's leading dealers in major electrical appliance, died recently.

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